# Appendix D
# Regulatory Framework

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## 1.0 Water Resources Regulatory Framework

Federal and State plans, policies, regulations and laws, and regional or local plans, policies, regulations, and ordinances pertaining to water resources are discussed in this section.

## 1.1 Federal Regulatory Framework

### *1.1.1 Coastal Zone Management Act*

The U.S. Congress recognized the importance of meeting the challenge of continued growth in the coastal zone by passing the Coastal Zone Management Act (CZMA) in 1972. The CZMA, administered by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, provides federal incentives for states to manage and protect their coastal resources.

The CZMA outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The Coastal Zone Management Program component of the CZMA encourages states to prepare coastal zone management programs that meet specified requirements and submit them to the Office of Ocean and Coastal Resource Management for approval. In exchange for an approved program, the State becomes eligible for federal funding assistance, among other things. The overall objectives of the CZMA are to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The CZMA requires that all applicants for federal permits and licenses and all federal agencies proposing to undertake specified activities in the coastal zone which may directly or indirectly affect coastal resources to obtain certification from the State's designated coastal zone program management agency that the proposed project is consistent with the State's approved coastal zone management program.

California has an approved coastal zone management program. The California Coastal Commission is designated as the lead State agency responsible for implementing and enforcing California's program statewide, and the San Francisco Bay Conservation and Development Commission (BCDC) is designated as the designated agency for the San Francisco Bay Area, including San Pablo Bay and the Suisun Marsh.

### *1.1.2 The Clean Water Act*

The Federal Water Pollution Control Act Amendments of 1972, also known as the Clean Water Act (CWA), established the institutional structure for the U.S. Environmental Protection Agency (USEPA) to regulate discharges of pollutants into the waters of the United States, establish water quality standards,

conduct planning studies, and provide funding for specific grant projects.[1] The CWA has been amended by Congress several times since 1972. USEPA has provided most states with the authority to administer many of the provisions of the CWA. In California, the State Water Resources Control Board (SWRCB) has been designated by USEPA to develop and enforce water quality objectives and implementation plans. The SWRCB has delegated the specific responsibilities for the development and enforcement actions to the Central Valley Regional Water Quality Control Board (RWQCB).

Water quality criteria are designed to protect beneficial uses. Ambient surface water quality may be judged against national and State water quality criteria and specific numeric and narrative Basin Plan objectives. Applicable objectives for key water quality constituents in surface water are summarized in Table D-1.

Current ambient water quality criteria for selenium are based on waterborne concentrations, but USEPA published a draft ambient water quality criterion for selenium in 2004 that was based on selenium concentrations in whole-body fish (USEPA 2004). The recommendations were intended to protect aquatic life under the CWA. They incorporated the latest scientific information available to the agency at that time and reflect an improved approach to measuring this bioaccumulative pollutant in the aquatic environment. In October 2008, USEPA released a technical report describing the results from additional testing of the toxicity of selenium to juvenile bluegill sunfish under winter temperature conditions, and also provided references for data obtained since 2004 (USEPA 2008).

Recent preliminary information concerning USEPA's pending revision of the draft chronic ambient water quality criterion suggests that the agency will propose a two-part criterion: selenium concentration in fish egg/ovary coupled with a water screening value (USEPA 2010a). If the latter is exceeded, the former must be either measured or may be estimated using whole-body concentrations. It is expected the water screening value will be conservative (so that if the value is not exceeded, there will be no problem), and that it may be lower than the current 5 micrograms per liter (µg/L) USEPA water criterion. The number for egg/ovary selenium will be driven by the available trout, bluegill, and largemouth bass studies. $EC_{10}$ values (concentration at which 10 percent of offspring are affected) for those species range from about 18 to 23 milligrams per kilogram (mg/kg) dry weight based on egg/ovary data. Consistent with USEPA's criterion calculation methodology, the egg/ovary criterion is likely to be extrapolated downward from the lowest observed value and is, thus, expected to be in the range of 15 to 18 mg/kg.

Section 303(d) requires state, territories, and authorized tribes to develop a list of water-quality impaired segments of waterways and other water bodies under their jurisdiction. The law requires that the jurisdictions establish priority rankings of waters on the list and develop action plans, or total maximum daily loads (TMDLs), to improve water quality.

Section 402 of the CWA established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate point source discharges of pollutants into waters of the United States. An NPDES permit sets specific discharge limits for point sources discharging pollutants into waters of the United States and establishes monitoring and reporting requirements, as well as special conditions. Typically, NPDES permits are issued for a five-year period by the RWQCBs.

[1] Federal regulations define "waters of the United States" to include: (1) all waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters; (3) all other waters, including intrastate waters, where their use, degradation, or destruction could affect interstate or foreign commerce; (4) tributaries to any of these waters; (5) all impoundments of waters otherwise defined as waters of the United States; and (6) wetlands that meet any of these criteria or are adjacent to any of these waters or their tributaries (40 Code of Federal Regulations section 122.2.)

Table D-1
Applicable Federal Criteria, State Standards/Objectives, and Other Relevant Effects Thresholds for Selected Water Quality Constituents (µg/L)

| | Region 5 CV Basin Plan | Region 2 SFB Basin Plan | CTR (CCC/CMC)[p] | Drinking Water MCL | USEPA Recommended Criteria (CCC/CMC)[p] | Other Relevant Thresholds |
|---|---|---|---|---|---|---|
| Arsenic | 10[a] (FW, D) | 36/69[i] (SW, D) | 150/340[q,r,s] (FW, D) | 10 | 150/340[ee,ff] (FW, D) | |
| Boron | 800-1,000[b] /2,000-2,600[c] (FW, T) | 2,000[j] | | | 750,000[gg] | |
| Bromoform | | | 4.3[t,u] | | 4.3[hh, ii] | |
| Cadmium | 0.22[d] (FW, D) | 9.3/42[i] (SW, D) | 2.2/1.3[q,r,s,v,w] (FW, D) | 5 | 0.25/2.0[ff] (FW, D) | |
| Chloride | | 355,000[j] | | 250,000[aa,bb] | 230,000/860,000 | |
| Chlorobromomethane | | | 0.401[t,u] | | 0.40[hh, ii] | |
| Chlorpyrifos | 0.015/0.025[e] | | | | 0.041/0.083 | |
| Chromium III | | | 180/550[q,r,v,x] (FW, D) | 50 (T) | 74/570[ff] (FW, D) | |
| Chromium VI | | 50/1100[l, k] (SW, D) | 11/16[q,r,s] (FW, D) | | 11/16 (FW, D) | |
| Copper | 10[a] /5.6[d] (FW, D) | 6.0/9.4[l] | 9/13[q,r,s,v,w] (FW, D) | 1,000[aa]/1,300[cc] | Calculate with BLM[jj] | |
| Diazinon | 0.1/0.16[e] | | | | 0.17/0.17 | |
| Specific Conductivity (EC) | | 0.2 – 3 µS/cm[j] | | 0.9 µS/cm[aa,bb] | | |
| Lead | | 8.1/210[i] (SW, D) | 2.5/65[q,r,v] (FW, D) | 15[cc] | 2.5/65[ff,kk] (FW, D) | |
| Mercury | (TMDL-fish tissue)[f] | 0.025/2.1[m] (SW) | 0.05[t] | 2 | 0.77/1.4[ll] | |
| Methylmercury | 0.06 ng/L | | | | | |
| Nickel | | 8.2/74[i] (SW, D) | 52/470[q,r,s,v] (FW, D) | 100 | 52/470[ff] (FW, D) | |
| Nitrate + Nitrate (N) | | 30,000[j] | | 10,000 (NO3-N) | | |
| Selenium (µg/L) | 5/12[g] (FW, T) | 5/20[n] (FW, T) | 5/20[y] (FW, T) | 50[dd] | 5/variable[e] (FW, T) | 2[oo] (FW, T) |

Table D-1
Applicable Federal Criteria, State Standards/Objectives, and Other Relevant Effects Thresholds for Selected Water Quality Constituents (µg/L)

| | Region 5 CV Basin Plan | Region 2 SFB Basin Plan | CTR (CCC/CMC)[p] | Drinking Water MCL | USEPA Recommended Criteria (CCC/CMC)[p] | Other Relevant Thresholds |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | | 10,000 (mg/L) [o] | | 500,000 [aa,bb] | 250,000 [nn] | |
| Trihalomethanes | | | | 80 | | |
| Turbidity | 50/150 NTU [h] | | | 5 NTU [aa] | 2.34 NTU [gg] | |
| Zinc | 100 [a] /16 [d] (FW, D) | 81/90 [i] (SW, D) | 120/120 [q,r,s,v,w] (FW, D) | 5,000 [aa] | 120/120 [ff] (FW,D) | |

Notes:
µg/L = microgram per liter
µS/cm = microSeimens per centimeter
BLM = biotic ligand model
CCC = Criteria Continuous Concentration
CMC = Criteria Maximum Concentration
CTR = California Toxics Rule
CV = Central Valley
D = dissolved
EC = electrical conductivity
FW = freshwater
MCL = maximum contaminant level
mg/L = milligram per liter
NTU = Nephelometric turbidity unit
SFB = San Francisco Bay
SW = saltwater
T = total recoverable

**Region 5 Basin Plan (Central Valley RWQCB 2009)**

a. Numerical water quality objectives are contained in Table III-1 in the Basin Plan; objectives are stated as dissolved concentrations. Objective is applicable to the maximum concentration in the Sacramento River from Keswick Dam to the I Street Bridge at City of Sacramento; American River from Folsom Dam to the Sacramento River; Folsom Lake; and the Sacramento–San Joaquin Delta.

b. Mean monthly boron objective (total recoverable) applicable to the San Joaquin River (mouth of Merced River to Vernalis) for March 15–September 15 (0.8 m g/L) and September 16–March 14 (1.0 mg/L); with relaxation to 1.3 mg/L for all months of a critical dry year.

c. Maximum boron objective (total recoverable) applicable to the San Joaquin River (mouth of Merced River to Vernalis) for March 15–September 15 (2.0 mg/L) and September 16–March 14 (2.6 mg/L).

d. Hardness-dependent cadmium, copper, and zinc objectives (dissolved) applicable to Sacramento River and its tributaries above State Route 32 Bridge at Hamilton City. The effects of these concentrations were measured by exposing test organisms to dissolved aqueous solutions of 40 mg/L hardness that had been filtered through a 0.45 micron membrane filter. Where deviations from 40 mg/L of water hardness occur, the objectives, in mg/L, shall be determined using formulas shown in Table III-1.

Table D-1
Applicable Federal Criteria, State Standards/Objectives, and Other Relevant Effects Thresholds for Selected Water Quality Constituents (µg/L)

| | Region 5 CV Basin Plan | Region 2 SFB Basin Plan | CTR (CCC/CMC)[p] | Drinking Water MCL | USEPA Recommended Criteria (CCC/CMC)[p] | Other Relevant Thresholds |
|---|---|---|---|---|---|---|

e. Chlorpyrifos and diazinon objectives expressed as (4-day average chronic concentration)/ (1-hour acute concentration), not to be exceeded more than once in a 3-year period. Objectives are applicable to the San Joaquin River from Mendota Dam to Vernalis (Reaches include Mendota Dam to Sack Dam, Sack Dam to mouth of Merced River, mouth of Merced River to Vernalis), Delta Waterways, Sacramento River from Shasta Dam to Colusa Basin Drain, Sacramento River from the Colusa Basin Drain to I Street Bridge, and Feather River from Fish Barrier Dam to Sacramento River.

f. A Basin Plan Amendment for the Delta Methylmercury TMDL targets fish tissue mercury concentrations (Table 3.4.3.1-WQ-B) translated to methylmercury in water.

g. Objectives apply to the lower San Joaquin River from the mouth of the Merced River to Vernalis as 5 µg/L (4-day average) and 12 µg/L (maximum concentration) total selenium concentration (Central Valley RWQCB 2009, Chap. III, p. 4). For Mud Slough (north) and the San Joaquin River from the Mud Slough confluence to the mouth of the Merced River, the interim performance goal is 15 µg/L (monthly mean) by December 31, 2015, and the water quality objective to be achieved by December 31, 2019, is 5 µg/L (4-day average) (SWRCB 2010).

h. Except for periods of storm runoff, the turbidity of Delta waters shall not exceed 50 NTUs in the waters of the Central Delta and 150 NTUs in other delta waters (Chap. III, p. 9).

**Region 2 Basin Plan (San Francisco Bay RWQCB 2007)**

i. Numerical marine water quality objectives contained in Table 3-3 in the Basin Plan, expressed as (4-day average chronic concentration)/ (1-hour acute concentration). Marine waters are those in which the salinity is equal to or greater than 10 parts per thousand 95 percent of the time.

j. Numerical water quality objectives for agriculture based on the “Limit” values contained in Table 3-6 in the Basin Plan.

k. This objective may be met as total chromium.

l. Copper objectives expressed as (4-day average chronic concentration)/ (1-hour acute concentration). Objectives are applicable to the portion of the delta located in the San Francisco Bay Region, Suisun Bay, Carquinez Strait, San Pablo Bay, Central San Francisco Bay, and the portion of Lower San Francisco Bay north of the line representing the Hayward Shoals on Figure 7.1 of the Basin Plan.

m. Adopted from the SF Bay Mercury TMDL

n. Selenium criteria were promulgated as total recoverable concentrations for all San Francisco Bay/Delta waters in the National Toxics Rule (NTR) (USEPA 1992; San Francisco Bay RWQCB 2007, Chap. 3, pp. 71-72).

o. Numerical water quality objectives for agriculture based on the “Limit for Livestock Watering” value contained in Table 3-6 in the Basin Plan.

**California Toxics Rule (USEPA 2000)**

p. CMC equals the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without deleterious effects. CCC equals the highest concentration of a pollutant to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.

q. Criteria for these metals are expressed as a function of the water-effect ratio (WER). CMC = column B1 or C1 value x WER; CCC = column B2 or C2 value x WER.

r. These freshwater and saltwater criteria for metals are expressed in terms of the dissolved fraction of the metal in the water column. Criterion values were calculated by using USEPA’s Clean Water Act 304(a) guidance values (described in the total recoverable fraction) and then applying the conversion factors in #131.36(b)(1) and (2).

s. This criterion has been recalculated pursuant to the 1995 Updates: Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water, Office of Water, EPA-820-B-96-001, September 1996 (USEPA 1996). See also Great Lakes Water Quality Initiative Criteria Documents for the Protection of Aquatic Life in Ambient Water, Office of Water, EPA-80-B-95-004, March 1995 (USEPA 1995).

t. Criteria revised to reflect the Agency q1* or reference dose, as contained in the Integrated Risk Information System as of October 1, 1996. The fish tissue bioconcentration factor from the 1980 documents was retained in each case.

u. Criteria are based on carcinogenicity of 10(-6) risk. For consumption of water and organisms.

v. Freshwater aquatic life criteria for metals are expressed as a function of total hardness (in mg/L) in the water body. The equations are provided in the matrix at paragraph (b)(2) of this section. Values displayed above in the matrix correspond to a total hardness of 100 mg/L.

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Applicable Federal Criteria, State Standards/Objectives, and Other Relevant Effects Thresholds for Selected Water Quality Constituents (µg/L)

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|---|---|---|---|---|---|---|

w. The State of California had adopted and USEPA has approved site-specific criteria for the Sacramento River (and tributaries) above Hamilton City; therefore, these criteria do not apply to these waters

x. These criteria were promulgated for specific waters in California in the NTR, at #131.36. The specific waters to which the NTR criteria apply include: Waters of the State defined as bays or estuaries and waters of the State not ocean waters. These waters specifically include the San Francisco Bay upstream to and including Suisun Bay and the Sacramento–San Joaquin Delta. This section does not apply instead of the NTR for this criterion.

y. Standard is Criterion Continuous Concentration as 5 µg/L total recoverable selenium; California Toxics Rule deferred to the NTR for San Francisco Bay/Delta waters and San Joaquin River (USEPA 2000).

**California Maximum Contaminant Levels**

z. The Basin Plans for the Central Valley Regional Water Quality Control Board and San Francisco Bay RWQCB incorporate by reference the primary drinking water MCLs and secondary MCLs specified in Title 22 of the California Code of Regulations. Surface waters designated for use as domestic or MUN shall not contain concentrations of constituents in excess of the MCLs in Table 64431-A (Inorganic Chemicals), Table 64433.2-A (Fluoride), Table 64444-A (Organic Chemicals), and Table 64449-A (Consumer Acceptance Limits) and 64449-B (Ranges) of Title 22. Values displayed above in the table are primary MCLs unless specified.

aa. Secondary MCL

bb. Secondary MCLs for salinity parameters established as a range consisting of 0.9–2.2 µS/cm electrical conductivity, 250–600 mg/L chloride, 250–600 mg/L sulfate, and 500–1,500 mg/L total dissolved solids.

cc. Regulatory Action Level; if system exceeds, it must take certain actions such as additional monitoring, corrosion control studies and treatment and, for lead, a public education program; replaces MCL.

dd. In addition, the California Office of Environmental Health Hazard Assessment (OEHHA 2010, p. 3) has recommended a Public Health Goal of 30 µg/L.

**National Recommended Water Quality Criteria (USEPA 2009)**

ee. This recommended water quality criterion was derived from data for arsenic (III), but is applied here to total arsenic, which might imply that arsenic (III) and arsenic (V) are equally toxic to aquatic life and that their toxicities are additive. In the arsenic criteria document (PDF) (74 pp., 3.2 MB) (EPA 440/5-84-033, January 1985 [USEPA 1985]), Species Mean Acute Values are given for both arsenic (III) and arsenic (V) for five species and the ratios of the SMAVs for each species range from 0.6 to 1.7. Chronic values are available for both arsenic (III) and arsenic (V) for one species; for the fathead minnow, the chronic value for arsenic (V) is 0.29 times the chronic value for arsenic (III). No data are known to be available concerning whether the toxicities of the forms of arsenic to aquatic organisms are additive.

ff. The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. The value given here corresponds to a hardness of 100 mg/L. Criteria values for other hardness may be calculated from the following: CMC (dissolved) = $\exp\{m_A[\ln(\text{hardness})]+ b_A\}$ (CF), or CCC (dissolved) = $\exp\{m_c[\ln (\text{hardness})]+ b_c$ and the parameters specified in Appendix B-Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent.

gg. Criterion value from the Gold Book (Quality Criteria for Water: 1986. EPA 440/5-86-001 [USEPA 1986]).

hh. This criterion has been revised to reflect The Environmental Protection Agency's q1* or reference dose, as contained in the Integrated Risk Information System (IRIS) as of May 17, 2002. The fish tissue bioconcentration factor from the 1980 Ambient Water Quality Criteria document was retained in each case.

ii. This criterion is based on carcinogenicity of $10^{-6}$ risk. For consumption of water and organisms.

jj. The available toxicity data, when evaluated using the procedures described in the "Guidelines for Deriving Numerical National Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" indicate that freshwater aquatic life should be protected if the 24-hour average and four-day average concentrations do not respectively exceed the acute and chronic criteria concentrations calculated by the BLM. Requires 10 parameters (temperature, pH, dissolved organic carbon, calcium, magnesium, sodium, potassium, sulfate, chloride, and alkalinity) to calculate.

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|---|---|---|---|---|---|---|

kk. USEPA is actively working on this criterion and so this recommended water quality criterion may change substantially in the near future.

ll. This recommended water quality criterion was derived from data for inorganic mercury (II), but is applied here to total mercury. If a substantial portion of the mercury in the water column is methylmercury, this criterion will probably be under protective. In addition, even though inorganic mercury is converted to methylmercury and methylmercury bioaccumulates to a great extent, this criterion does not account for uptake via the food chain because sufficient data were not available when the criterion was derived.

mm. Criteria for protection of freshwater aquatic life are 5 µg/L (continuous concentration, 4-day average) total recoverable selenium and they vary for the CMC (24-hour average) (USEPA 2010b). The CMC = 1/[(f1/CMC1) + (f2/CMC2)] where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively.

nn. This human health criterion is the same as originally published in the Red Book (EPA 440/9-76-023, July, 1976 [USEPA 1976]) which predates the 1980 methodology and did not utilize the fish ingestion bioconcentration factor approach. This same criterion value is now published in the Gold Book (Quality Criteria for Water: 1986. EPA 440/5-86-001 [USEPA 1986]).

**Other Relevant Thresholds**

oo. Concentration as total recoverable selenium identified as a Level of Concern for the Grassland Bypass Project (Beckon et al. 2011, p. 130, Table 1)

Section 404 of the CWA requires that an entity obtain permits from the U.S. Army Corps of Engineers (USACE) before discharging dredge or fill material into navigable waters, their tributaries, and associated wetlands. Activities regulated by 404 permits include, but are not limited to, dredging, bridge construction, flood control actions, and some fishing operations. Wetlands are defined under section 404 as "those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (40 Code of Federal Regulations [CFR] section 122.2). Jurisdictional wetlands must meet three wetland delineation criteria:

- Hydrophytic vegetation (i.e., plants that grow in saturated soil)
- Hydric soil types (i.e., soils that are wet or moist enough to develop anaerobic conditions)
- Wetland hydrology

### *1.1.3 Central Valley Project Improvement Act*

The Central Valley Project Improvement Act (CVPIA), passed by Congress in 1992, amended the authorization of the Central Valley Project (CVP) to include fish and wildlife protection, restoration, and mitigation as project purposes of the CVP fish and wildlife protection, restoration, and mitigation as project purposes having equal priority with irrigation and domestic uses and fish and wildlife enhancement as a project purpose equal to power generation. The CVPIA requires the Secretary of the Interior, through the U.S. Bureau of Reclamation (Reclamation) and the U.S. Fish and Wildlife Service (USFWS), "to operate the CVP consistent with the purposes of the act, to meet the Federal trust responsibilities to protect the fishery resources of affected federally recognized Indian tribes, and to achieve a reasonable balance among competing demands for the use of CVP water" (Reclamation 2005).

Among the changes to the CVP mandated by the CVPIA were the following:

- Dedicating 800,000 acre-feet annually to fish, wildlife, and habitat restoration (section 3406(b)(2));
- Authorizing water transfers outside the CVP service area (section 3405);
- Implementing an anadromous fish restoration program (section 3406(b)(1));
- Creating a restoration fund financed by water and power users (section 3407));
- Providing for the Shasta Temperature Control Device (section 3406(b)(6));
- Implementing fish passage measures at Red Bluff Diversion Dam (section 3406(b)(10));
- Calling for planning to increase the CVP yield (sction 3406(j));
- Mandating firm water supplies for Central Valley wildlife refuges and wildlife habitat areas (section 3406(d));
- Improving the Tracy Fish Collection Facility (section 3406(b)(4)); and
- Meeting Federal trust responsibility to protect fishery resources in the Trinity River (section 3406(b)(23)).

The CVPIA is being implemented as authorized and operations of the CVP reflect provisions of the CVPIA. Several of the CVPIA provisions were related to uses of environmental water accounts, including dedication of 800,000 acre-feet to fish, wildlife, and habitat restoration under section 3406(b)(2). On May 9, 2003, the Department of the Interior issued its Decision on Implementation of section 3406 (b)(2) of CVPIA. These actions generally occur through in-stream flow augmentation below CVP reservoirs or reductions in export pumping at CVP Jones Pumping Plant. Instream flow augmentation occurs on Clear

Creek, Sacramento River below Keswick Dam, Lower American River, and Stanislaus River below Goodwin Dam. In general, the "(b)(2) water" is used to augment in-stream flows required by regulations adopted prior to implementation of CVPIA. For example, (b)(2) water on the Sacramento River provides in-stream flows below Keswick Dam greater than those that would have occurred under pre-CVPIA regulations under the fish and wildlife requirements specified in State Water Resources Control Board Order 90-5 and criteria formalized in the 1993 National Marine Fisheries Service (NMFS) Winter-run Chinook Salmon Biological Opinion to further reduce the potential of dewatering of redds and provide suitable habitat for salmonid spawning, incubation, rearing, and migration.

### *1.1.4 Coordinated Operations Agreement*

The State Water Project (SWP) and CVP use a common water supply in the Delta. The associated water rights are conditioned by the SWRCB to protect the beneficial uses of water individually and jointly for the SWP and CVP for the protection of beneficial uses in the Sacramento Valley and the Sacramento-San Joaquin Delta Estuary. The Coordinated Operations Agreement (COA) (Public Law 99-546), signed in 1986, defines the SWP and CVP facilities and their water supplies, sets forth procedures for coordination of operations, identifies formulas for sharing joint responsibilities for meeting Delta standards, as the standards existed in SWRCB Decision 1485 (D-1485) and other legal uses of water (as described below under State Regulatory processes), identifies how unstored flow will be shared, sets up a framework for exchange of water and services between the SWP and CVP, and provides for periodic review of the agreement.

In-basin uses, or legal uses of water in the Sacramento Basin, as defined by COA include water required under the SWRCB D-1485 Delta standards for water quality protection for agricultural, municipal and industrial, and fish and wildlife use. The SWP and CVP are obligated to ensure water is available for these uses, but the degree of obligation is dependent on several factors and changes throughout the year. Balanced water conditions are defined in the COA as periods when it is mutually agreed that releases from upstream reservoirs plus unregulated flows approximately equals the water supply needed to meet Sacramento Valley in-basin uses plus exports. Excess water conditions are periods when it is mutually agreed that releases from upstream reservoirs plus unregulated flow exceed Sacramento Valley in-basin uses plus exports. During excess water conditions, sufficient water is available to meet all beneficial needs, and the CVP and SWP are not required to supplement the supply with water from reservoir storage. Under Article 6(g) of the COA, Reclamation and the Department of Water Resources (DWR) have the responsibility (during excess water conditions) to store and export as much water as possible, within physical, legal, and contractual limits. During balanced water conditions, the SWP and CVP share the responsibility in meeting in-basin uses. When water must be withdrawn from reservoir storage to meet in-basin uses, 75 percent of the responsibility is borne by the CVP and 25 percent is borne by the SWP. When unstored water is available for export while balanced water conditions exist, the sum of CVP stored water, SWP stored water, and the unstored water for export is allocated 45 and 55 percent to the SWP and CVP, respectively.

Implementation of the COA principles has evolved since 1986 due to changes in facilities (including North Bay Aqueduct), as well as new water quality and flow standards established by SWRCB D-1641 and USFWS and NMFS biological opinions (described below under State Regulations). For example, water temperature controls at Shasta, Trinity, and Whiskeytown dams have changed the pattern of storage and withdrawals for the purpose of improving temperature control and managing coldwater pool resources. Such constraints have reduced the CVP's capability to respond efficiently to changes in Delta export or outflow requirements. Periodically, temperature requirements have caused the timing of the CVP releases to be significantly mismatched with Delta export capability, resulting in loss of water supply. On occasion, and in accordance with Articles 6(h) and 6(i) of the COA, the SWP has been able to export water released by the CVP for temperature control in the Sacramento River. The installation of the

Shasta temperature control device has significantly improved Reclamation's ability to match reservoir releases and Delta needs.

Another example of requirements not included in the COA is the objectives in the 1995 Water Quality Control Plan (WQCP), Vernalis Adaptive Management Program (VAMP), and SWRCB in D-1641 (described below). The 1986 COA water supply sharing formula is now used to meet D-1641 Delta outflow and salinity-based standards. SWRCB D-1641 also contains "export limitation" criteria such as the export to inflow ratios and San Joaquin River pulse period "export limits."

The 1986 COA affirmed the SWP's commitment to provide replacement export capacity for restrictions to the CVP operations in May and June under SWRCB D-1485. Subsequent changes included in SWRCB D-1641, water demand, and other export constraints have reduced the available surplus capacity at Banks Pumping Plant up to 195,000 acre-feet of pumping capacity, and diminished the water delivery anticipated by the CVP under the 1986 COA framework. The reductions in water delivery accomplishments are considered to be part of CVPIA (b)(2) water.

### *1.1.5 Rivers and Harbors Act of 1899*

Section 10 of the Rivers and Harbors Act of 1899 requires that a letter of permission or permit be obtained from the USACE for the construction of structures in, over, or under; excavation of material from; and deposition of material into navigable waters of the United States are regulated by USACE. "Navigable waters of the United States" is defined as those waters subject to the ebb and flow of the tide shoreward to the mean high-water mark or those that are used, have been used in the past, or may be susceptible to use in interstate or foreign commerce.

### *1.1.6 Implementation of the CALFED Bay-Delta Implementation Act*

In the August 28, 2000 CALFED Bay-Delta Program (CALFED) Record of Decision (ROD), Reclamation and other State and Federal agencies committed to implementing a long-term plan to restore the Bay-Delta. This plan consists of many activities including storage, conveyance, ecosystem restoration, levee integrity, watersheds, water supply reliability, water use efficiency, water quality, water transfers, and science. The Implementation Memorandum of Understanding, also signed August 28, 2000, continued the operations decision making process that had evolved through the CALFED process. The ROD identified numerous programs, including the Environmental Water Account to provide protection to fish in the Bay-Delta estuary through environmentally beneficial changes in SWP/CVP operations at no loss of uncompensated water cost to the SWP and CVP water users. This project expired in 2009; however, specific provisions may be considered in future operations.

### *1.1.7 Trinity River Mainstem Fishery Restoration*

In 1994, the USFWS, as the National Environmental Policy Act (NEPA) lead agency, and Trinity County, as the CEQA lead agency, began the public process for developing the Trinity River Mainstem Fishery Restoration Environmental Impact Statement/Environmental Impact Report (EIS/EIR). In December 2000, Department of the Interior signed the ROD for a variable annual flow regime, mechanical channel rehabilitation, sediment management, watershed restoration, and adaptive management. Based on the ROD, 368,600 to 815,000 acre-feet is allocated annually for Trinity River flows. This amount is scheduled in coordination with the USFWS to best meet habitat, temperature, and sediment transport objectives in the Trinity Basin.

### *1.1.8 San Joaquin River Agreement*

The San Joaquin River Agreement (SJRA) was adopted through the SWRCB D-1641 agreement and includes a 12-year experimental program providing for flows and Delta exports in the lower San Joaquin River during a 31-day pulse flow period during April-May. It also provides for the collection of experimental data during that time to further the understanding of the effects of flows, exports, and the

Head of Old River Barrier on salmon survival. This experimental program is commonly referred to as the VAMP. The SJRA also provides water for flows at other times on the Stanislaus, Merced, and lower San Joaquin Rivers. SJRA established a management and technical committee to oversee, plan, and coordinate implementation of activities required under the agreement. Reclamation, DWR, USFWS, Department of Fish and Game (DFG), and NMFS Fisheries are signatories to the agreement; other signatories include San Joaquin River water rights holders, CVP and SWP water users, and other stakeholders. The VAMP program has two distinct components: flow objectives and export restrictions. Flow increases to achieve VAMP targets could be provided using CVPIA section 3406 (b)(1), (b)(2), and (b)(3) to meet fishery needs on the Stanislaus River in addition to flows required in the 1987 DFG Agreement (described below). The export reduction involves a combined State and Federal pumping limitation on the Delta pumps. Pumping reductions which cannot be recovered by adjustments in CVP operations are considered to be (b)(2) water. Reductions of SWP pumping are limited to the amount that can be recovered through operations adjustments and the export of up to 48,000 acre-feet of transferred water to be made available from the Lower Yuba River Accord.

### *1.1.9 Bay-Delta Accord of 1994*

The Bay Delta Accord, signed in 1994, established interim Bay-Delta standards supported by both State and Federal governments and allowed the federal government to return primary control over Bay-Delta water management to the state. It committed water users to provide money and water to improve the Bay-Delta ecosystem, and in return guaranteed a 3-year reprieve from additional species protection requirements. In addition, the Accord started a long-term planning process to find comprehensive solutions to the environmental and water supply problems in the Bay-Delta. The CALFED Bay-Delta program, a collaborative State/Federal effort, was tasked to identify a package of projects and programs to restore the Bay-Delta's ecosystem and improve water supply reliability and water quality.

## 1.2 State Regulatory Framework

### *1.2.1 Urban Water Management Planning Act*

Pursuant to California Water Code [Wat. Code] sections 10610-10657, as last amended by Senate Bill 318 (SB 318) in 2004, the Urban Water Management Planning Act requires all urban water suppliers with more than 3,000 service connections or water use of more than 3,000 acre-feet annually are required to submit an Urban Water Management Plan (UWMP) to the DWR every 5 years and update the plan on or before December 31 in years ending in 5 and 0. SB 318 is the 18th amendment to the original bill requiring a UWMP, which was initially enacted in 1983. Amendments to SB 318 have focused on ensuring that the UWMP emphasizes and addresses drought contingency planning, water demand management, reclamation, and groundwater resources.

### *1.2.2 California Safe Drinking Water Act*

The California Safe Drinking Water Act (SDWA) Health & Saf. Code 4010—4039.6) authorizes the California Department of Public Health (CDPH) to establish maximum contaminants levels (MCLs) that are at least as stringent as those required by the USEPA under the SDWA (as discussed in Section 12.0, Hazards and Hazardous Materials Regulatory Framework). The CDPH has established MCLs for contaminants that may occur in public water systems, including all the substances for which federal MCLs exist, and may have adverse health effects. Operators of public water systems in California are required to meet Federal and State drinking water standards.

### *1.2.3 California Surface Water Treatment Rule*

The California Surface Water Treatment Rule satisfies three specific requirements of the Safe Drinking Act for surface waters by (1) establishing criteria for determining when filtration is required; (2) defining minimum disinfection levels; and (3) addressing certain bacteria, viruses, turbidity, and heterotrophic rate

count by setting a treatment technique. The Surface Water Treatment Rule applies to all drinking water supply activities in California; its implementation is overseen by the California Department of Health Services.

### 1.2.4 California Water Rights

In California, both the riparian doctrine and the prior appropriation doctrine apply (dual system). Riparian rights result from the ownership of land bordering a surface water source and are normally senior in priority to most appropriative rights. Owners with riparian water rights may use natural flows directly for beneficial purposes on adjoining lands without a permit from the SWRCB.

Appropriative rights are obtained by diverting surface water and applying it to a beneficial use. Before 1914, appropriative rights could be obtained by diverting an using the water, posting a notice of appropriation at the point of diversion, and recording a copy of the notice with the county recorder. Since 1914, the acquisition of an appropriative right requires a permit from the SWRCB.

The SWRCB is responsible for overseeing the water rights and water quality functions in California. It has jurisdiction to issue permits and licenses for appropriation from surface and underground streams, whereas the California courts have jurisdiction over the use of infiltrating groundwater, riparian use of surface waters, and the appropriative use of surface waters from diversions begun before 1914.

### 1.2.5 Central Valley Regional Water Quality Control Board Drinking Water Policy

A multi-year effort is currently underway to develop a drinking water policy for surface waters in the Central Valley. As water flows out of the sierra foothills and into the valley, pollutants from a variety of urban, industrial, agricultural, and natural sources affect the quality of water, which leads to drinking water treatment challenges and potential public health concerns. Existing policies and plans lack water quality objectives for several known drinking water constituents of concern, such as disinfection by-product precursors and pathogens, and do not include implementation strategies to provide effective source water protection. The Board committed to development of the Policy in Resolution R5-2004-0091 and later in Resolution R5-2010-0079. The 2010 Resolution also documented progress to date, provided direction for future actions and set deadlines for interim deliverables associated with Policy development by July 2013 (Central Valley RWQCB 2011). This drinking water policy will apply to Delta water and any activities that affect Delta water quality.

### 1.2.6 1995 Water Quality Control Plan and Water Rights Decision D-1641

The 1995 WQCP was developed as a result of the 1994 Bay-Delta Accord, which committed the CVP and SWP to new Delta habitat objectives. The new objectives were adopted through a water rights decision (D-1641) for CVP and SWP operations. One of the main features of the 1995 WQCP was the estuarine habitat objectives ("X2") for Suisun Bay and the western Delta. The X2 standard refers to the position at which 2 parts per thousand salinity occurs in the Delta estuary, and is designed to improve shallow water fish habitat in the spring of each year. Other elements of the 1995 WQCP include export-to-inflow ratios intended to reduce entrainment of fish at the export pumps, Delta Cross Channel gate closures, minimum Delta outflow requirements, and San Joaquin River salinity and flow standards.

### 1.2.7 Delta Protection Act of 1992

The Delta Protection Act (Public Resources Code [Pub. Resources Code] section 21080.22) includes a series of findings and declarations related to the quality of the Delta environment and emphasizes the national, State, and local importance of protecting the unique resources of the Delta. The Act mandated a State-level planning effort to address the needs of Delta communities. The Delta Protection Commission (DPC) was made a permanent State agency in 2000 because a need for continued planning and management was identified. The DPC has planning jurisdiction over portions of five counties: Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. It was charged with developing a

comprehensive regional plan to guide land use and resource management, including wildlife habitat and recreation. The resulting Land Use and Resource Management Plan for the Primary Zone of the Delta was initially adopted by the DPC in February 1995 and updated in November 2010 (DPC 2010). The plan has 8 policy areas, including Environment, Utilities and Infrastructure, Land Use and Development, Water and Levees, Agriculture, Recreation and Access, Marine Patrol, and Boater Education and Safety Programs. With the adoption of the management plan, all local governments with incorporated areas in the Delta Primary Zone must submit proposed amendments to their general plans to the DPC. The DPC then reviews the proposed amendments to ensure they are consistent with the Land Use and Resource Management Plan for the Primary Zone of the Delta.

### *1.2.8 Porter-Cologne Water Quality Control Act*

The Porter Cologne Water Quality Control Act (Porter-Cologne Act) established the SWRCB and the RWQCBs as the principal State agencies with primary responsibility for the coordination and control of water quality (Wat. Code section 13001), including the enforcement of applicable laws and regulations. In addition to overseeing the efforts of the RWQCBs, the SWRCB is also responsible for allocating surface water rights.

Major areas of focus between the SWRCB and the RWQCBs' efforts include the following:

- Stormwater
- Wastewater treatment
- Water quality monitoring
- Wetlands protection
- Ocean protection
- Environmental education
- Environmental justice
- Clean up contaminated sites, including brownfields
- Low-impact development

The SWRCB and the RWQCBs also administer several financial assistance programs to assist communities in the construction of water and wastewater infrastructure (SWRCB 2011).

Under the Porter-Cologne Act, waters of the State fall under jurisdiction of the SWRCB and the nine RWQCBs. "Waters of the State" are any surface or groundwater body within the boundaries of the State (Wat. Code section 13050(e)). The SWRCB and the RWQCBs have delegated federal authority to implement the requirements of the federal CWA in California, including issuing federal NPDES permits, pursuant to the Porter Cologne Act. However, the requirements of the Porter Cologne Act are even broader than those of the CWA. Under the Porter-Cologne Act, the RWQCBs must prepare and periodically update water quality control plans, also known as basin plans. Each basin plan sets forth water quality objectives sufficient to ensure reasonable protection of designated beneficial uses of surface water and groundwater, as well as actions to control nonpoint and point sources of pollution. Any person who discharges or proposes to discharge any waste that could affect the quality of the waters of the State must file a "report of waste discharge" with the appropriate RWQCB. "Waste" includes any and all waste substances associated with human habitation, of human or animal origin, or from any producing, manufacturing or processing operation (Wat. Code section 13050(d)). Upon receipt of a report of waste discharge, the RWQCB may then issue "waste discharge requirements" designed to ensure compliance with applicable water quality objectives and other requirements of the Basin Plan.

### *1.2.9 California Toxics Rule*

The California Toxics Rule is applicable to all State waters, as are the USEPA advisory National Recommended Water Quality Criteria. Central Valley and Delta areas are subject to the 2006 Bay-Delta Water Quality Control Plan (SWRCB 2006), and the Central Valley, Tulare Basin, and San Francisco

Bay regional plans (Central Valley RWQCB 2008, San Francisco RWQCB 2007). Freshwater criteria apply to waters of salinity less than 1 parts per thousand, seawater criteria are for water greater than 10 parts per thousand, and estuarine waters use the more stringent of the two possible criteria.

In addition to the regulation of selenium (discussed under federal rules, above), the regulation of mercury contamination is approached through bioaccumulation to fish. In addition to fish fillets protective of human health, the Delta TMDL recommended concentrations for mercury in small, whole-body fish to be protective of wildlife not to exceed 0.03 mg/kg mercury wet weight (Central Valley RWQCB 2010).

For evaluation of risks to human health, analyses of fish fillets are most common and were used in California to establish Fish Contaminant Goals and Advisory Tissue Levels (OEHHA 2008, pp. 3-4), although the fish should be analyzed in the form that people may eat (for example, for some species or ethnic groups, whole-body analyses may be appropriate).

### *1.2.10 State Water Quality Improvement Plans, including TMDLs*

A variety of State and Federal water quality improvement programs have been recently completed, are underway, or are scheduled for work in the Delta and watershed. A list is provided in Table D-2.

Table D-2
Federal and State Actions to Improve and Enhance Surface Water Quality Under Development in the Central Valley, Delta, and Suisun Marsh (in addition to promulgated Water Quality Criteria, as in Table WQ-1 and routine NPDES permitting and Waste Discharge Requirements)

**State: TMDLs**

***Source: Central Valley RWQCB 2011; San Francisco Bay RWQCB 2011***

| Water Bodies | Pollutants (approval date) |
|---|---|
| Upper Sacramento River | Cadmium, Copper, and Zinc (2002) |
| Sacramento and Feather Rivers | Diazinon and Chlorpyrifos (2007) |
| Sacramento County Urban Creeks | Diazinon and Chlorpyrifos (2004) |
| Stockton Urban Water Bodies/Calaveras R. | Pathogens (2008) |
| Stockton Deep Water Ship Channel (Phase I) | Dissolved Oxygen (2005) |
| San Joaquin River, upstream of Vernalis | Salt and Boron (2007) |
| San Joaquin River, upstream of Vernalis | Diazinon and Chlorpyrifos (2002) |
| San Joaquin River, Mud Slough to Merced R. | Selenium (2002) |
| Salt Slough | Selenium (1999) |
| Grasslands | Selenium (2000) |
| Sacramento-San Joaquin River Delta | Diazinon and Chlorpyrifos (2007) |
| Clear Lake | Mercury (2003) |
| Clear Lake | Nutrients (2007) |
| Cache Creek, Bear Creek, Harley Gulch | Mercury (2007) |
| San Francisco Bay Area Urban Creeks | Diazinon (2007) |
| San Francisco Bay (includes Suisun Bay) | Mercury (2008) |
| San Francisco Bay (includes Suisun Bay) | PCBs (Polychlorinated Biphenyls) (2010) |
| Suisun Marsh | Dissolved Oxygen, beginning |
| Suisun Marsh | Mercury, beginning |
| Central Valley | Organochlorine Pesticides, ongoing |
| Central Valley | Pesticides, ongoing |
| American River | Mercury, ongoing statewide TMDL |
| Sacramento-San Joaquin River Delta | Methyl Mercury (2011) |

Table D-2
Federal and State Actions to Improve and Enhance Surface Water Quality Under Development in the Central Valley, Delta, and Suisun Marsh (in addition to promulgated Water Quality Criteria, as in Table WQ-1 and routine NPDES permitting and Waste Discharge Requirements)

| | |
|---|---|
| Stockton Urban Sloughs/Calaveras R. | Dissolved Oxygen, beginning |
| Stockton Urban Sloughs/Calaveras R. | Pathogens, beginning |
| Stockton Deep Water Ship Channel (Phase II) | Dissolved Oxygen, ongoing |
| North San Francisco Bay (includes Suisun Bay) | Selenium, ongoing |
| **Other State or Local Programs** | |
| CV-SALTS, Delta, San Joaquin Valley, Tulare Basin | Salinity, nitrate, ongoing |
| Grasslands Bypass Project | Selenium (SWRCB resolution) |
| Central Valley RWQCB Drinking Water Policy (planned, 2013) | All, including disinfection byproducts and pathogens |
| SWRCB Strategic Plan | Planned quality improvements for Delta waters |
| Delta Regional Monitoring Program | Future: Coordinated by Central Valley RWQCB, SWRCB, Interagency Ecology Program, Regional Monitoring Program |
| SWRCB Recycled Water Policy | Water reuse and conservation, statewide, ongoing |
| San Francisco BCDC | Suisun Bay water quality improvement actions, ongoing |
| OEHHA health advisories for fish | Mercury, dioxins, furans, and PCBs in Delta and other waters, ongoing |
| California Rice Commission | Rice pesticide monitoring program, ongoing |
| **Federal Programs** | |
| Reclamation San Luis Drainage Feature Re-Evaluation Draft EIS | Selenium, salinity (2006) |
| Reclamation Grasslands Bypass Project | Selenium, salinity, supports State Basin Plan (San Francisco Estuary Institute reports) |
| USEPA, new selenium and mercury objectives | Future: selenium, mercury, nationwide tissue-based objectives (may change TMDL targets and NPDES permits) |

### *1.2.11 Suisun Marsh Preservation Agreement*

On March 2, 1987, the Suisun Marsh Preservation Agreement was signed by DWR, DFG, Reclamation, and the Suisun Resource Conservation District. The purpose of the agreement was to establish mitigation for impacts on salinity from the SWP, CVP, and other upstream diversions. The Suisun Marsh Preservation Agreement has the following objectives:

- To ensure that Reclamation and DWR maintain a water supply of adequate quantity and quality to manage wetlands in the Suisun Marsh (to mitigate adverse effects on these wetlands from SWP and CVP operations, as well as a portion of the adverse effects of other upstream diversions)
- To improve Suisun Marsh wildlife habitat on these managed wetlands
- To define the obligations of Reclamation and DWR necessary to ensure the water supply, distribution, management facilities, and actions necessary to accomplish these objectives
- To recognize that water users in the Suisun Marsh (i.e., existing landowners) divert water for wildlife habitat management in the Suisun Marsh

In 2000, the CALFED ROD was signed, which included the Environmental Restoration Program (ERP) calling for the restoration of 5,000 to 7,000 acres of tidal wetlands and the enhancement of 40,000 to 50,000 acres of managed wetlands (CALFED Bay-Delta Program 2000). In 2001, the USFWS, Reclamation, DFG, DWR, NMFS, Suisun Resource Conservation District, and CALFED Bay-Delta Program (the Principal Agencies) directed the formation of a charter group to develop a plan for Suisun Marsh that would balance the needs of CALFED, the Suisun Marsh Preservation Agreement, and other plans by protecting and enhancing existing land uses, existing waterfowl and wildlife values including those associated with the Pacific Flyway, endangered species, and State and Federal water project supply quality. In addition to the Principal Agencies, the charter group includes other regulatory agencies such as USACE, BCDC, SWRCB, and RWQCBs.

In 2010, the Principal Agencies circulated a draft EIS/EIR that describes three alternative 30-year plans and their potential impacts. The adopted alternative will become the Suisun Habitat Management, Preservation, and Restoration Plan. The plan purposes/objectives to implement the CALFED ROD Preferred Alternative of restoration of 5,000 to 7,000 acres of tidal marsh and protection and enhancement of 40,000 to 50,000 acres of managed wetlands; maintain the heritage of waterfowl hunting and other recreational opportunities and increase the surrounding communities' awareness of the ecological values of Suisun Marsh; maintain and improve the Suisun Marsh levee system integrity to protect property, infrastructure, and wildlife habitats from catastrophic flooding; and protect and, where possible, improve water quality for beneficial uses in Suisun Marsh.

### *1.2.12 Assembly Bill 3030: Groundwater Management Act (2002)*

The Groundwater Management Act (Water Code sections 10750-10756 of the Wat. Code (Assembly Bill [AB] 3030)) provides a systematic procedure for an existing local agency to develop a groundwater management plan. This section of the code provides agencies with the powers of a water replenishment district to raise revenue to pay for facilities to manage the basin (extraction, recharge, conveyance, quality). Many agencies have adopted groundwater management plans in accordance with AB 3030. AB 3030 allows certain defined existing local agencies to develop a groundwater management plan for groundwater basins

AB 3030 encourages local water agencies to establish local groundwater management plans and lists 12 elements that can be included within the plans to ensure efficient use, good groundwater quality, and safe production of water. These 12 elements are as follows (Wat. Code section 10753):

- Control of saline water intrusion
- Identification and management of well-head protection areas and recharge areas
- Regulation of the contaminated groundwater migration
- Administration of a well abandonment and destruction program
- Mitigation of overdraft conditions
- Replenishment of groundwater extracted by water producers
- Monitoring of groundwater levels and storage
- Facilitation of water management operations
- Identification of well construction policies
- Construction and operation (by the local agency) of groundwater contamination cleanup, recharge, storage, conservation, water recycling, and production projects

- Development of relationships with State and Federal regulatory agencies
- Review of land use plans and coordination with land use planning agencies to assess activities that create a reasonable risk of groundwater contamination

### *1.2.13 Special Act Districts*

Special Act Districts are created through a special act of the Legislature and are granted greater authority to manage groundwater resources (DWR 2011). Currently thirteen such local agencies exist in California. In general, the specific authority of these districts includes two general categories:

- Limiting export and extraction of groundwater in their jurisdictions (upon evidence of overdraft or threat of overdraft)
- Requiring the users in the basin to report extractions to the agency, who can levy a fee from groundwater management or water supply replenishment.

There are six special act districts with groundwater management authority in the study area (Table D-3).

Table D-3
Special Act Districts with Groundwater Management Authority

| Agency Name | County |
|---|---|
| Desert Water Agency | Riverside (Mojave Valley) |
| Fox Canyon Groundwater Management District | Ventura |
| Ojai Groundwater Management Agency | Ventura |
| Orange County Water District | Orange |
| Pajaro Valley Water Management Agency | Santa Cruz/Monterey/San Benito |
| Santa Clara Valley Water District | Santa Clara |

Source: DWR 2011

### *1.2.14 SB 1245 (Water Code Section 10756) (1997)*

Senate Bill 1245 (SB 1245) requires the DWR to publish a report to the Legislature that lists all agencies that have adopted groundwater management plans pursuant to any provision of the Wat. Code or to case law decided in court. Thus, groundwater management plans developed under AB 3030, adjudicated basins, groundwater management districts, city/county ordinances, and the other 22 types of local agencies are included in this report.

## 1.3 Local Regulatory Framework

### *1.3.1 Local Surface Water Regulations*

Surface water is regulated at the local level (counties and cities) through the general plans and county codes (water-specific ordinances). Most county general plans in the state provide goals and policies related to water service and water resources. For example, the Contra Costa County general plan includes the following provisions: assurance of potable water availability to residents (7-F); development of locally controlled water supplies to meet growth (7-G); conservation of water resources (7-H); flood control and flooding prevention (7-O-7-R); assurance of adequate long-term supply of water for domestic purposes as well as fishing, agricultural, and industrial uses (8-T); maintenance of ecology and hydrology of streams, creeks, and other natural waterways (8-U); and enhancement of opportunities for public accessibility and recreational use (9-43, 9-47).

### *1.3.2 Local Groundwater Ordinances*

Several county groundwater ordinances applicable to groundwater basins that underlie the Delta and Suisun Marsh, the Delta watershed, and areas outside of the Delta that use Delta water, have been passed. Counties and cities might adopt laws (ordinances) to manage certain aspects of groundwater resources such as well installation, groundwater extraction, and exportation. Such ordinances vary amongst agencies and tailor to specific groundwater issues encountered in the particular agency management area. Close to thirty counties in California have adopted groundwater ordinances. The counties that incorporate groundwater-related ordinances in the areas that might be affected by the Delta Plan are: Shasta, Tehama, Glenn, Colusa, Yolo, Sacramento, San Joaquin, Calaveras, Tuolumne, Madera, Fresno, Kern, Napa, Ventura, San Diego, San Bernardino. Local county ordinances vary by authority or agency and region, but typically involve provisions to limit or prevent groundwater overdraft, regulate transfers, and protect groundwater quality.

For example, San Joaquin County's groundwater management ordinance was promulgated in 1996. It requires a permit for any groundwater exports from the Eastern San Joaquin County groundwater basin. Before a permit will be issued, an applicant is required to demonstrate that the proposed export will not exacerbate the existing groundwater overdraft condition.

# 2.0 Biological Resources Regulatory Framework

Federal and State plans, policies, regulations and laws, and regional or local plans, policies, regulations, and ordinances pertaining to biological resources are discussed in this section.

## 2.1 Federal Regulatory Framework

### *2.1.1 The Clean Water Act*

The Clean Water Act is discussed in Section 1.0, Water Resources Regulatory Framework.

### *2.1.2 Endangered Species Act*

The federal Endangered Species Act (ESA) applies to proposed federal, state and local projects that may result in the "take" of a fish or wildlife species that is federally listed as threatened or endangered and to actions that are proposed to be authorized, funded or undertaken by a federal agency and which may jeopardize the continued existence of any federally listed fish, wildlife or plant species or which may adversely modify or destroy designated critical habitat for such species. "Take" is defined under the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct." (16 United States Code [USC] section 1532(19)). Under federal regulations, "harm" is defined as "an act which actually kills or injures wildlife," including significant habitat modification or degradation where it actually results, or is reasonably expected to result, in death or injury to wildlife by substantially impairing essential behavioral patterns, including breeding, feeding, sheltering, spawning, rearing, and migrating (50 CFR sections 17.3, 222.102). "Harass" is defined similarly broadly. If there is a potential that implementing a project would result in take of a federally listed species, either a habitat conservation plan (HCP) and incidental take permit, under section 10(a) of the ESA, or a federal interagency consultation, under section 7 of the ESA, is required.

An HCP and incidental take permit is the mechanism for authorizing take of listed species for projects that are authorized, funded or carried out by a State or local government agency, and the section 7 process (including a biological opinion and accompanying incidental take statement) is the mechanism for authorizing take of listed species for actions that are authorized, funded or carried out by a federal agency.

In addition, regardless of whether take may occur, a federal interagency consultation under section 7 is required if a federal agency action "may affect" a federally listed species or designated critical habitat.

Under the ESA, the NMFS has jurisdiction over anadromous fish, marine fish and reptiles, and marine mammals, and the USFWS has jurisdiction over all other species, including all terrestrial and plant species, freshwater fish species, and a few marine mammals (such as the California sea otter).

Besides listing species within their respective jurisdictions as threatened or endangered, issuing incidental take permits and conducting interagency consultations, USFWS and NMFS also are charged with designating "critical habitat" for threatened and endangered species, which the ESA defines as: (1) specific areas within the geographical area occupied by the species at the time of listing, if they contain physical or biological features essential to a species' conservation, and those features may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by the species if the agency determines that the area itself is essential for conservation of the species (16 USC section 1532(5)(A).)

### *2.1.3 Magnuson-Stevens Fishery Conservation and Management Act*

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act (Public Law 104 to 297), requires that all federal agencies consult with NMFS on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH) for commercially managed marine and anadromous fish species. EFH includes specifically identified waters and substrate necessary for fish spawning, breeding, feeding, or growing to maturity. EFH also includes all habitats necessary to allow the production of commercially valuable aquatic species, to support a long-term sustainable fishery, and contribute to a healthy ecosystem (16 USC section 1802(10)).

The Pacific Fishery Management Council has designated the Delta, San Francisco Bay, and Suisun Bay as EFH to protect and enhance habitat for coastal marine fish and macroinvertebrate species that support commercial fisheries such as Pacific salmon. Because EFH only applies to commercial fisheries, this means that habitat for Chinook salmon is included, but habitat for steelhead is not. There are three fishery management plans (for Pacific Salmon, Coastal Pelagic, and Groundfish species) issued by the Pacific Fishery Management Council that cover the following species occurring in the study area:

- Starry flounder – Identified as a "Monitored" species by the Pacific Coast Groundfish Fishery Management Plan (PFMC 2011)
- Northern anchovy – Identified as a "Monitored" species by the Pacific Coast Groundfish Fishery Management Plan (PFMC 1998, 2008)
- Pacific sardine – Identified as an Actively Managed Species by the Coastal Pelagic Species Fishery Management Plan (PFMC 1998)
- Chinook salmon – Identified as an Actively Managed Species by the Pacific Coast Salmon Plan (PFMC 2003)

### *2.1.4 Fish and Wildlife Coordination Act (16 USC Section 651 et seq.)*

The Fish and Wildlife Coordination Act, as amended in 1964, was enacted to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The statute requires federal agencies to take into consideration the effect that water-related projects would have on fish and wildlife resources. Consultation and coordination with USFWS and State fish and game agencies are required to address ways to prevent loss of and damage to fish and wildlife resources and to further develop and improve these resources.

### 2.1.5 Marine Mammal Protection Act (16 USC 1361-1421h)

The Marine Mammal Protection Act (MMPA) was enacted in 1972. All marine mammals are protected under the MMPA. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States. It defines "take" to mean "to hunt harass, capture, or kill" any marine mammal or attempt to do so. Exceptions to the moratorium can be made through permitting actions for take incidental to commercial fishing and other nonfishing activities; for scientific research; and for public display at licensed institutions such as aquaria and science centers.

### 2.1.6 National Invasive Species Act of 1996

The National Invasive Species Act (Public Law 104-332), reauthorizes and amends the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 to mandate regulations to reduce environmental and economic impacts from invasive species and to prevent introduction and spread of aquatic nuisance species, primarily through ballast water. As the primary federal law regulating ballast water discharges, the act calls primarily for voluntary ballast water exchange by vessels entering the United States after operating outside of the Exclusive Economic Zone.

The authority to regulate ballast water discharges in the United States has recently shifted to include the USEPA in addition to the U.S. Coast Guard. Since February 2009, the USEPA must regulate ballast water, and other discharges incidental to normal vessel operations, under section 402 of the Clean Water Act. U.S. Coast Guard regulations, developed under authority of the revised and reauthorized act, also require ballast water management (i.e., ballast water exchange) for vessels entering United States waters from outside of the 200-nautical mile Exclusive Economic Zone of the United States, with certain exceptions. The act also authorized funding for research on aquatic nuisance species prevention and control in San Francisco Bay, the Delta, the Pacific Coast, and other areas of the United States.

### 2.1.7 Executive Order 11312: Invasive Species

Executive Order 11312 (February 3, 1999) directs all federal agencies to prevent and control the introduction and spread of invasive nonnative species in a cost-effective and environmentally sound manner to minimize their effects on economic, ecological, and human health. The executive order was intended to build on existing laws, such as NEPA, the Nonindigenous Aquatic Nuisance Prevention and Control Act, the Lacey Act, the Plant Pest Act, the federal Noxious Weed Act, and the ESA.

### 2.1.8 Federal Noxious Weed Act and Code of Federal Regulations (Title 7, Part 360)

The federal Noxious Weed Act (7 USC sections 2801 to 2813) and Title 7, Part 360 of the CFR are primarily concerned with the introduction of federally designated noxious weed plants or seeds across the borders of the United States. The federal Noxious Weed Act also regulates the interstate movement of designated noxious weeds under the U.S. Department of Agriculture's permit system.

### 2.1.9 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements a series of international treaties that provide migratory bird protection. The MBTA authorizes the Secretary of the Interior to regulate the taking of migratory birds, and the act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (16 USC section 703). This prohibition includes both direct and indirect acts, although harassment and habitat modification are not included unless they result in direct loss of birds, nests, or eggs. The current list of species protected by the MBTA was published in the March 10, 2010 *Federal Register* (*Federal Register*, Volume 75, page 9282 [75 FR 9282]).

### 2.1.10 Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds

Executive Order 13186 (January 10, 2001) directs federal agencies that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement a Memorandum of Understanding with USFWS to promote the conservation of migratory bird populations. The Memorandum of Understanding should include implementation actions and reporting procedures that would be followed through each agency's formal planning process, such as resource management plans and fisheries management plans.

### 2.1.11 North American Waterfowl Management Plan and Central Valley Joint Venture

In 1986, the North American Waterfowl Management Plan (NAWMP) was signed by the United States and Canada. It provides a broad framework for waterfowl management through 2000 and includes recommendations for wetland and upland habitat protection, restoration, and enhancement. Implementing the NAWMP is the responsibility of designated joint ventures. A revision of the NAWMP is scheduled to be released in 2011/2012 (USFWS 2009). The Central Valley Habitat Joint Venture, formally organized in 1988, was one of the original six priority joint ventures formed under the NAWMP. Renamed the Central Valley Joint Venture in 2004, it is composed of 21 federal and State agencies, conservation organizations, and PG&E.

### 2.1.12 Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation

The purpose of Executive Order 13443 (August 16, 2007) is to direct federal agencies that maintain programs and activities having a measurable effect on public land management, outdoor recreation, and wildlife management to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.

### 2.1.13 Comprehensive Conservation Plans for National Wildlife Refuges

USFWS is directed to develop comprehensive conservation plans to guide the management and resource use for each refuge of the National Wildlife Refuge System under requirements of the National Wildlife Refuge Improvement Act of 1997. Refuge planning policy also directs the process and development of comprehensive conservation plans. A comprehensive conservation plan describes the desired future conditions and long-range guidance necessary for meeting refuge purposes. It also guides management decisions and sets forth strategies for achieving refuge goals and objectives within a 15-year time frame.

### 2.1.14 Executive Order 11990: Protection of Wetlands

Executive Order 11990 (May 24, 1977) established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

### 2.1.15 U.S. Army Corps of Engineers Levee Vegetation Policy

In the wake of Hurricane Katrina in 2005, USACE published a white paper (USACE 2007) and a subsequent engineering technical letter (USACE 2009) defining as USACE policy that all vegetation with the exception of grasses should be removed from levees and from an additional zone of 15 feet from the toe of the levee. Beyond 15 feet of the water-side toe of a levee, the use of suitable vegetation, such as shrubby willows, is encouraged to moderate the erosive potential of water currents. The local sponsor of flood control projects may in certain instances, request a variance from the standard vegetation guidelines

to further enhance environmental values or to meet State or Federal laws and/or regulations (75 FR 6364–6368, February 9, 2010).

USACE has indicated that it supports the Central Valley Flood System Improvement Framework Agreement that was adopted by the Central Valley Flood Protection Board, which includes many ongoing flood control system improvements and which will remain in effect until July 2012, when the Central Valley Flood Protection Plan will be completed (Stockton 2010). With its support of the Central Valley Framework Agreement, "which recognizes that factors, other than vegetation on levees, may constitute higher flood risk" (Stockton 2010), USACE has given California in practice a reprieve from its "no vegetation on levees" policy until July 2012. Currently, a group of researchers funded by the Sacramento Area Flood Control Agency and a separate group of USACE researchers are conducting field studies on the effects of vegetation on levee stability, and the results of these studies may be used by USACE to provide future guidance regarding levee vegetation.

Results of the USACE study (USACE 2011) indicate that trees and their root systems have an effect on overall levee stability. Researchers found that tree can increase or decrease the factor of safety with respect to slope stability depending on the location of the tree on the levee. When the tree was located at the levee toe, a reinforcing effect was observed and the factor of safety was increased; the factor of safety was slightly reduced when trees were located at the crest and mid-slope locations on the land side of the levee (USACE 2011, Vol. IV, p. 31). The authors state "Because of the extreme variability in geology, tree species, climate, and soils, the impact of trees on levees must be analyzed on a case-by-case basis." (USACE 2011, Vol. IV, p.vi). Despite this new study, officials at the U.S. Army Corps of Engineers have indicated that they have no intention of changing the policy that bans trees on levees (SAC BEE 2011).

### *2.1.16 CALFED Multi-Species Conservation Strategy*

The CALFED Multi-Species Conservation Strategy developed regulatory and management responsibilities to implement a long-term comprehensive plan to restore ecological health and improve water management for beneficial uses of the Bay-Delta system. The federal agencies involved in the program included the U.S. Bureau of Reclamation, USFWS, NMFS, USACE, and USEPA. The State agencies involved in the program included the California Environmental Protection Agency, California Natural Resources Agency, DFG, DWR, and SWRCB (CALFED 2000). Through legislation enacted in 2009 (SBX7 1), the CALFED Program has now been transferred to the Delta Stewardship Council.

CALFED developed long-term measures to address problems affecting the Bay-Delta Estuary. The program had four objectives:

- Water Quality – to provide optimal water quality
- Ecosystem Restoration – to improve and increase aquatic and terrestrial habitats, and improve ecological functions in the Bay-Delta Estuary to support sustainable populations of diverse plant and animal species
- Water Supply Reliability – to reduce shortages between water supplies and current and projected demands on the system
- Levee System Reliability – to reduce the risk of failure of Delta levees that protect land use and associated economic activities, water supply, and other infrastructure and ecosystems

#### 2.1.16.1 Ecosystem Restoration Program

The ERP is the principal CALFED program component designed to restore the ecological health of the Bay-Delta ecosystem. The approach of the ERP is to restore or mimic natural ecological processes and to increase and improve aquatic and terrestrial habitats to support stable, self-sustaining populations of diverse and valuable species (DFG 2008a). Stage 1 of the ERP Conservation Strategy is being used to

facilitate coordination and integration of actions, not only within CALFED, but among all resource planning, conservation, and management decisions affecting the Delta, Suisun Marsh, and San Francisco Bay planning areas (DFG 2008a). The Conservation Strategy is essentially the guidance for Stage 2 activities of the ERP concerning the Delta and Suisun Marsh, and has evolved into the Delta Regional Ecosystem Restoration Implementation Plan.

### *2.1.17 Central Valley Project Improvement Act*

The Central Valley Project Improvement Act is discussed in Section 1.0, Water Resources Regulatory Framework.

## 2.2 State Regulatory Framework

### *2.2.1 California Endangered Species Act*

California Fish and Game Code (Fish & G. Code) sections 2050–2115.5, otherwise known as the California Endangered Species Act (CESA) states that all native species of fish, wildlife, and plants that are in danger of or threatened with extinction because their habitats are threatened with destruction, adverse modification, or severe curtailment, or because of overexploitation, disease, predation, or other factors are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of the State, and that the conservation, protection, and enhancement of these species and their habitat is of statewide concern (Fish & G Code section 2051).

An "Endangered" species is a native species or subspecies of bird, mammal, fish, amphibian, reptile or plant that is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish & G. Code section 2062). A "Threatened" species is a native species or subspecies of bird, mammal, fish, amphibian, reptile or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of special protection and management efforts (Fish & G. Code section 2067). The California Fish and Game Commission is responsible for listing species under CESA, and DFG is responsible for implementing and enforcing and issuing permits under CESA.

Similar to the federal ESA, CESA strictly prohibits the "take" of any threatened or endangered fish, wildlife or plant species or species that is a candidate for listing as threatened or endangered under CESA. Under section 2081 of the Fish & G. Code, a incidental take permit from DFG is required for projects that could result in the "take" of a species that is State-listed as threatened or endangered, or that is a candidate for listing. Under CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species, but the definition does not include "harm" or "harass," as the definition of ESA does. As a result, the threshold for take under CESA may be higher than that under the ESA. The potential for State-listed wildlife and plant species to occur in areas that could be affected by implementation of the Delta Plan is discussed in this EIR in Section 4.3.2.2, Special-status Species.

Under Fish & G. Code section 2080.1, an applicant can notify DFG that he has been issued an incidental take statement/permit pursuant to the ESA for species that are listed under both the ESA and CESA and can request a consistency determination. If DFG determines that the conditions specified in the federal incidental take statement/permit are consistent with CESA, a consistency determination can be issued, which allows for incidental take under CESA under the same provisions as under the federal incidental take statement/permit.

Sections 3505, 3511, 3513, 3800, 4700, 5050, and 5515 of the Fish & G. Code pertain to fully protected wildlife species (birds in sections 3505 through 3800, mammals in section 4700, reptiles and amphibians in section 5050, and fish in section 5515) and strictly prohibit the take of fully protected species. With

certain narrow exceptions, DFG cannot issue a take permit for fully protected species; therefore, avoidance measures may be required to avoid take.

### 2.2.2 California Native Plant Protection Act

Sections 1900 to 1913 of the Fish & G. Code codify the Native Plant Protection Act of 1977 (NPPA), which is intended to preserve, protect, and enhance endangered or rare native plants in the state. Under section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is present in such small numbers throughout its range that it may become endangered if its environment worsens. The California Fish and Game Commission has the authority to designate native plants as "endangered" or "rare," and DFG has authority to implement and enforce the NPPA. Like CESA, the NPPA strictly prohibits the take of endangered and rare plant species. However, the NPPA contains certain exceptions to this take prohibition that are not included within CESA. The relationship between CESA and the NPPA is complex and subject to legal debate. Generally speaking, a CESA section 2081 permit for incidental take of listed threatened and endangered plants is required, with certain exceptions. Because rare plants are not covered by CESA, mitigation measures for impacts on rare plants are specified in a formal agreement between DFG and the project proponent.

DFG maintains a Special Vascular Plants, Bryophytes, and Lichens List for California (DFG 2011a) as part of the California Natural Diversity Database. The list is updated quarterly and is reviewed and updated by rare plant status review groups (more than 300 botanical experts from government, academia, nongovernment organizations, and the private sector) managed jointly by DFG and CNPS. Plant species, subspecies, or varieties are assigned a California Rare Plant Rank (CRPR) based on their level of endangerment. Plants with CRPR 1A, 1B, or 2 meet the definitions of section 1901 of the Fish & G. Code and may qualify for State listing. Therefore, for purposes of this analysis, they are considered rare plants under section 15380 of the California Environmental Quality Act (CEQA). For plants with a CRPR 3 rank, DFG and CNPS lack sufficient information to assign them another code, and CRPR 4 indicates limited distribution of plants that in the future may become rare. Plants with CRPR 3 and 4 ranks may be reviewed on a case-by-case basis to determine whether they should be considered rare plants pursuant to section 15380 of CEQA.

### 2.2.3 Porter-Cologne Water Quality Control Act

The Porter-Cologne Act is discussed in Section 1.0, Water Resources Regulatory Framework. Section 13050 of the act regulates "biological" pollutants subject to regulation by SWRCB and the affiliated RWQCB. Aquatic invasive plants discharged to receiving waters are an example of this kind of pollutant. The Wat. Code generally regulates more substances and defines discharges to receiving waters more broadly than the CWA.

### 2.2.4 McAteer-Petris Act

The McAteer-Petris Act, enacted on September 17, 1965, was enacted to preserve San Francisco Bay from indiscriminate filling and established BCDC as a temporary State agency charged with preparing a plan for the long-term use of the Bay and regulating development in and around the bay. To this end, BCDC prepared the *San Francisco Bay Plan* (Bay Plan) (BCDC 1968). In August 1969, the McAteer-Petris Act was amended to make BCDC a permanent agency and to incorporate the policies of the Bay Plan into State law. The Bay Plan includes findings and policies on 8 issues about the bay as a resource and 21 findings and policies on developing the bay and shoreline. In addition to the findings and policies, the Bay Plan contains maps that apply these policies to the bay and shoreline. BCDC conducts the regulatory and permitting process in accordance with the Bay Plan policies and maps, which guide the protection and development of the following jurisdiction features:

- The open water, marshes, and mudflats of greater San Francisco Bay, including Suisun, San Pablo, Honker, Richardson, San Rafael, San Leandro, and Grizzly bays and the Carquinez Strait
- The first 100 feet inland from the shoreline around San Francisco Bay
- The portion of the Suisun Marsh, including levees, waterways, marshes, and grasslands, below the 10-foot contour line
- Portions of most creeks, rivers, sloughs, and other tributaries that flow into San Francisco Bay
- Salt ponds, duck hunting preserves, game refuges, and other managed wetlands that have been diked off from San Francisco Bay

As discussed in Section 1.0, Water Resources Regulatory Framework, the CZMA requires that all applicants for federal permits and federal agency sponsors obtain certification from the State's approved coastal program that the proposed project is consistent with the State's program. In the San Francisco Bay and Suisun Marsh, BCDC is charged with making this consistency determination.

### *2.2.5 The Salmon, Steelhead Trout, and Anadromous Fisheries Program Act*

The Salmon, Steelhead, Trout and Anadromous Fisheries Program Act (Fish & G. Code section 6900-6903.5), was enacted in 1988 in response to DFG reporting that the natural production of salmon and steelhead in California had declined dramatically since the 1940s, primarily as a result of lost stream habitat on many streams in the state. The Salmon, Steelhead Trout, and Anadromous Fisheries Program Act declares that it is the policy of the State of California to increase the state's salmon and steelhead resources, and directs DFG to develop a plan and program that strives to double the salmon and steelhead resources (Fish & G. Code section 6902(a)). It is also the policy of the State that existing natural salmon and steelhead habitat shall not be diminished further without offsetting the impacts of lost habitat (Fish & G. Code section 6902(c)).

### *2.2.6 Marine Invasive Species Act*

The Marine Invasive Species Act of 2003 (AB 433) revised and expanded the Ballast Water Management for Control of Nonindigenous Species Act of 1999 to more effectively address the threat of nonindigenous species introductions. The law charged the California State Lands Commission (SLC) with oversight of the State's program to prevent or minimize the introduction of nonindigenous species from commercial vessels. The current SLC regulations provide vessel owners with various options for managing ballast water, including retention, exchange in mid-ocean waters, treatment, or discharge at the same location the ballast water originated.

### *2.2.7 Natural Community Conservation Planning Act*

Sections 2800–2835 of the Fish & G. Code, otherwise known as the Natural Community Conservation Planning Act (NCCP Act), detail the State's policies on the conservation, protection, restoration, and enhancement of the State's natural resources and ecosystems. The intent of the legislation is to provide for conservation planning as an officially recognized policy that can be used as a tool to eliminate conflicts between the protection of the State's natural resources and the need for growth and development. In addition, the legislation promotes conservation planning as a means of coordination and cooperation among private interests, agencies, and landowners, and as a mechanism for multispecies and multihabitat management. The NCCP Act provides an alternative means for DFG to authorize the incidental take of species listed as threatened or endangered or which are candidates for listing under CESA. Adopted conservation plans that address the Delta and Suisun Marsh are discussed in Section 4 of the EIR, Biological Resources.

### 2.2.8 California Fish and Game Code Section 1600

Sections 1600–1616 of the Fish & G. Code state that it is unlawful for any person or agency to (1) substantially divert or obstruct the natural flow of the bed, channel or bank of any river, stream or lake; (2) substantially change the bed, channel, or bank of any river, stream, or lake; (3) use any material from the bed, channel or bank of any river, stream or lake; or (4) deposit or dispose of debris, waste or other material containing crumbled, flaked or ground pavement where it may pass into any river, stream or lake in California, without first notifying DFG. With certain exceptions, a Streambed Alteration Agreement must be obtained if DFG determines that substantial adverse effects on existing fish and wildlife resources are expected to occur. The Streambed Alteration Agreement must include measures designed to protect the affected fish and wildlife and associated riparian resources. The regulatory definition of a stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks, and that body of water supports wildlife, fish, or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. DFG's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

### 2.2.9 Delta Protection Act of 1992

The Delta Protection Act and the Delta Protection Commission are discussed in Section 1.0, Water Resources Regulatory Framework. The Delta Protection Commission's *Land Use and Resource Management Plan for the Primary Zone of the Delta* contains three policies considered applicable to biological resources with respect to the Delta Plan and are provided in Appendix 4-2, Relevant Goals and Policies from Applicable Planning Documents (DPC 2010).

### 2.2.10 California Food and Agriculture Code

More than 30 different statutes address the State's mandate to prevent the introduction and spread of injurious animal pests, plant diseases, and noxious weeds. These statutes describe procedures and regulations concerning plant quarantines; regulation of noxious weed seed; emergency pest eradications to protect agriculture; pests as public nuisances; vectors of infestation and infection; the sale, transport, and propagation of noxious weeds; and the protection of native species and forests from weeds. Most of these statutes and their associated regulations (Title 3 of the California Code of Regulations [Cal. Code Regs.]) are enforced by the California Department of Food and Agriculture.

### 2.2.11 Harbors and Navigation Code

Article 2, section 64, of the Harbors and Navigation Code authorizes the California Department of Boating and Waterways to manage aquatic weeds impeding the navigation and use of State waterways.

### 2.2.12 California Aquatic Invasive Species Management Plan

Developed by the DFG Invasive Species Program, the California Aquatic Invasive Species Management Plan provides information that State agencies and other entities can use to collaborate on addressing aquatic invasive species. The plan proposes management actions for addressing aquatic invasive species threats to the State of California. It focuses on the nonnative algae, crabs, clams, fish, plants and other species that continue to invade California's creeks, wetlands, rivers, bays and coastal waters (DFG 2008a, p. 1). The California Aquatic Invasive Species Management Plan has the following eight major objectives (DFG 2008a, p. 6):

1. Improve coordination and collaboration among the people, agencies, and activities involved with aquatic invasive species.

2. Minimize and prevent the introduction and spread of aquatic invasive species into and throughout the waters of California.

3. Develop and maintain programs that ensure the early detection of new aquatic invasive species and the monitoring of existing aquatic invasive species.
4. Establish and manage systems for rapid response and eradication.
5. Control the spread of aquatic invasive species and minimize their impacts on native habitats and species.
6. Increase education and outreach efforts to ensure awareness of aquatic invasive species threats and management priorities throughout California.
7. Increase research on the baseline biology of aquatic invasive species, the ecological and economic impacts of invasions and control options to improve management.
8. Ensure State laws and regulations promote the prevention and management of aquatic invasive species introductions.

Each objective is supported by a series of strategic actions. The plan meets federal requirements to develop statewide Nonindigenous Aquatic Nuisance Species Management Plans under section 1204 of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (amended as the National Invasive Species Act of 1996). Article 2, section 64, of the Harbors and Navigation Code authorizes the California Department of Boating and Waterways to manage aquatic weeds impeding the navigation and use of State waterways.

### *2.2.13 California Department of Food and Agriculture Integrated Pest Control Branch Programs*

The Integrated Pest Control Branch of the California Department of Food and Agriculture conducts a wide range of pest management and eradication projects as part of the Plant Health and Pest Prevention Services Division Pest Prevention Program. Assessments and fees are collected for some program activities and services. The branch cooperates with other State agencies, federal and county agencies, research institutions, agricultural industries, and other nongovernmental organizations. Relevant programs and projects include the Hydrilla Program, Japanese Dodder Program, Weed Management Area program, Purple Loosestrife Project, and Encyclopedia, all of which are applicable to the Delta.

### *2.2.14 California's Weed Management Area Program*

Weed Management Areas are local organizations that bring together landowners and managers (private, city, county, State, and federal) in a county or multicounty geographical area to coordinate efforts and expertise against common invasive and noxious weed species. The Weed Management Area functions under the authority of a mutually developed memorandum of understanding. It develops a strategic plan that helps to prioritize eradication, control, and containment projects, as well as other Weed Management Area activities. The strategic plan also identifies what each partner contributes toward the overall cooperative nature of the Weed Management Area. The program includes 48 Weed Management Area covering all 58 counties in the state.

### *2.2.15 Sections of the California Fish and Game Code Pertaining to Invasive and Noxious Plant Species*

At least five statutes and their associated regulations address or relate to invasive and noxious plant species. The code sections include Fish & G. Code sections 2080 to 2089, 2118, 2270 to 2272, 2300, 6400 to 6403, 15000 et seq. The intent of these statutes is to regulate the importation and transportation of live wild animals and plants, restrict the placement of live aquatic animals or plants in State waters, and regulate the operation of aquaculture industries. DFG is the State agency responsible for implementing these statutes.

### 2.2.16 California Wetlands Conservation Policy

The goal of the California Wetlands Conservation Policy, adopted in 1993 (Executive Order W-59-93), is to ensure no overall net loss of wetlands and to achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California in a manner that fosters creativity, stewardship, and respect for private property.

### 2.2.17 Suisun Marsh Preservation Acts and Suisun Marsh Protection Plan

In 1974, the California Legislature passed the Nejedly-Bagley-Z'berg Suisun Marsh Preservation Act of 1974 (SB 1981), the purpose of which is to preserve the Suisun Marsh from residential, commercial, and industrial development. The act directed the BCDC and DFG to prepare a protection plan for the Suisun Marsh "to preserve the integrity and assure continued wildlife use" of the marsh.

The objectives of the protection plan are to preserve and enhance the quality and diversity of the Suisun Marsh aquatic and wildlife habitats and to ensure retention of upland areas adjacent to the marsh in uses compatible with its protection. The protection plan includes (1) a primary management area encompassing the 89,000 acres of tidal marsh, managed wetlands, adjacent grasslands, and waterways over most of which the BCDC has jurisdiction; and (2) a secondary management area of approximately 22,500 acres of buffer lands.

The *Suisun Marsh Protection Plan* is being updated. The draft EIS/EIR for the *Suisun Marsh Habitat Management, Preservation, and Restoration Plan, California* became available for public review on October 29, 2010. This plan will span 30 years and addresses various conflicts regarding the use of resources within approximately 51,000 acres of the Suisun Marsh. The main focus of the EIS/EIR is to achieve an acceptable multi-stakeholder approach to the restoration of tidal wetlands and the enhancement of managed wetlands and their functions (Reclamation et al. 2010, pp. 66780–66781).

### 2.2.18 Suisun Marsh Preservation Agreement

Details about this agreement are found in Section 1.0, Water Resources Regulatory Framework. In 2010, the Principal Agencies circulated a draft EIS/EIR that describes three alternative 30-year plans and their potential impacts. The adopted alternative will become the Suisun Habitat Management, Preservation, and Restoration Plan. The plan purposes/objectives to implement the CALFED ROD Preferred Alternative of restoration of 5,000 to 7,000 acres of tidal marsh and protection and enhancement of 40,000 to 50,000 acres of managed wetlands; maintain the heritage of waterfowl hunting and other recreational opportunities and increase the surrounding communities' awareness of the ecological values of Suisun Marsh; maintain and improve the Suisun Marsh levee system integrity to protect property, infrastructure, and wildlife habitats from catastrophic flooding; and protect and, where possible, improve water quality for beneficial uses in Suisun Marsh.

### 2.2.19 Yolo Bypass Wildlife Area Land Management Plan

The *Yolo Bypass Wildlife Area Land Management Plan* was finalized in June 2008 (DFG 2008b). The plan is a general policy guide to DFG management of the wildlife area and is intended to contribute to habitat management that uses natural processes to create a sustainable system over the long term. The polices are based on an ecosystem approach to habitat management consistent with the principles of the Ecosystem Restoration Program included in the CALFED Bay-Delta Program as implemented by the California Bay-Delta Authority and DFG.

## 2.3 Local Regulatory Framework

This section provides a general discussion of goals, objectives, and policies related to biological resources in the adopted general plans for each county or incorporated city in the Delta. Relevant goals, objectives, and policies are provided in Appendix 4-2.

## *2.3.1 Sacramento County*

### 2.3.1.1 Sacramento County General Plan

The *Sacramento County General Plan* was adopted in 1993. Since then, several of the separate general plan elements have been revised, including the Open Space Element (1993) and the Conservation Element (1993). The Open Space Element addresses preservation of natural resources over an extensive area in the southern half of the county, which is designated for open space uses. Natural resources discussed in the Open Space Element include terrestrial and aquatic habitats and agricultural areas. The Open Space Element identifies two policies that provide overall guidance for the county's open space protection efforts. The Conservation Element identifies policies relating to habitat protection, habitat restoration, vernal pools, channel modifications, native and landmark tree protections, and special-status species (Sacramento County 1993).

### 2.3.1.2 Sacramento County Code

Sacramento County Code Title 19, Trees, contains three chapters. Chapter 19.04, Regulations, regulates the planting, maintenance, protection, and preservation of public trees and landscaping and provides special protection for heritage and landmark trees in the unincorporated area of the county. Chapter 19.08, Dutch Elm Disease Control, is intended to control and prevent the spread of Dutch elm disease and the insect pests and vectors that carry the disease. Chapter 19.12, Tree Preservation and Protection, was established to preserve and protect remaining native oak trees and establishes basic standards and measures for preserving and protecting trees to promote the health, safety, and general welfare; to preserve and protect substantial historical values; to enhance the beauty of Sacramento County; and to complement and strengthen zoning, subdivision, and land use standards and regulations. The policy of the county is to preserve all trees possible through its development review process.

### 2.3.1.3 City of Sacramento General Plan

The City of Sacramento 2030 General Plan was adopted on March 3, 2009. The revised Environmental Resources Element of the general plan addresses protection of biological resources, including wildlife habitat, open space corridors, and ecosystems. Eight policies from the Environmental Resources Element are applicable to the Delta Plan (City of Sacramento 2009).

### 2.3.1.4 Elk Grove General Plan

The Elk Grove General Plan was adopted on November 19, 2003. The most recent version includes amendments through July 22, 2009 (City of Elk Grove 2003). The plan contains goals and policies related to protection of the natural environment, including open space lands in proximity to Elk Grove that provide for agricultural use and habitat for native species, natural resources management and protection for the use and enjoyment of current and future generations, and preservation and enhancement of Elk Grove's natural areas, in particular the areas within the floodplain of the Cosumnes River.

## *2.3.2 Yolo County*

### 2.3.2.1 Yolo County General Plan

The *Yolo County General Plan* was originally adopted in 1983. The general plan integrates, by reference, locally effective parts of the DPC's Land Use and Resource Management Plan for the Primary Zone of the Delta. The Open Space and Recreation Element addresses preservation of various resources in an open space environment. Two policies from this element of the plan concerning riparian areas and wetlands, and open space buffer areas of unique biological or agricultural importance, are considered applicable to the Delta Plan (Yolo County 2009).

In 2003, the Yolo County Board of Supervisors gave direction to begin the process for a comprehensive update to the county's general plan. The*2030 Countywide General Plan* was adopted in November 2009.

Five policies concerning special-status communities, heritage valley oak trees, roadside tree rows, special-status species, riparian corridors, native habitat restoration, and conservation from the Conservation and Open Space Element of the updated general plan are considered applicable to the Delta Plan (Yolo County 2009).

#### 2.3.2.2 West Sacramento General Plan

The *West Sacramento General Plan* was adopted on May 3, 1990 (City of West Sacramento 1990), and amended on multiple occasions, including the most recent revision on December 8, 2004. The plan contains policies to protect sensitive native vegetation and wildlife communities and habitat in West Sacramento. These include policies to support State and Federal policies for preservation and enhancement of riparian vegetation, minimizing the loss or degradation of wetland and riparian habitats at selected locations, and preserve populations of rare, threatened, and endangered species, and promote the use of native plants.

The general plan also directs the City to prepare and adopt a habitat conservation program in conjunction with other jurisdictions.

### *2.3.3 Solano County*

#### 2.3.3.1 Solano County General Plan

The *Solano County General Plan* was adopted in August 2008 and approved by the voters in November 2008. The plan's Resources Element addresses conservation of resources, including biological resources, throughout the county and specifically in the Delta. Six policies concerning natural habitats and biological resources, and, more specifically, occurrences of special-status species, wetlands, special-status natural communities, and habitat connections from the Resources Element, are considered applicable to the Delta Plan (Solano County 2008a).

General plan policies and other polices, programs, and regulations to preserve and enhance the wildlife habitat of the Suisun Marsh and to ensure retention of upland areas adjacent to the marsh in uses compatible with its protection have been developed as part of Solano County's component of the Suisun Marsh Local Protection Program. These policies are included as Appendix C of the *Solano County General Plan* and were certified by BCDC on November 3, 1982, and amended on February 2, 1999 (Solano County 2008b).

#### 2.3.3.2 City of Rio Vista General Plan

The *City of Rio Vista General Plan 2001* was adopted in 2002. The plan's Resource Conservation and Management Element addresses conservation of resources, including biological resources. Two policies from this element of the plan concerning wetlands and native riparian habitat protection are considered applicable to the Delta Plan (City of Rio Vista 2002).

#### 2.3.3.3 City of Suisun City General Plan

Suisun City borders the Suisun Marsh, with a small fraction of the marsh located within the city planning area. The Suisun City General Plan (City of Suisun City 1992) includes goals and objectives to improve the qualities and amenities of the Suisun Marsh environment, and specific policies that protect agriculture and wildlife habitat within the areas prescribed by the Suisun Marsh Protection Plan.

#### 2.3.3.4 City of Fairfield General Plan

The City of Fairfield is located in proximity to the Suisun Marsh. While the city limits are not within the marsh itself, activities within the city's planning area have the potential to influence the Suisun Marsh. The Open Space, Conservation, and Recreation Element of the City of Fairfield General Plan (City of Fairfield 2002) contains policies that contribute to the protection of the marsh, such as the management of seasonal creeks and other drainage courses to protect and enhance the Suisun Marsh.

#### 2.3.3.5 City of Benicia General Plan

The City of Benicia General Plan, as adopted on June 15, 1999 and amended on November 4, 2003, includes goals and policies for the preservation and enhancement of habitat for special-status plants and animals. The policies include protection and retention of essential habitat of special-status plant and animal species, protection and enhancement of native vegetation and habitats, protection of movement corridors, and preservation of open space corridors marshlands (City of Benicia 1999). The general plan also includes goals to permanently protect and enhance wetlands to prevent a net loss of wetlands within the Benicia Planning Area and restore and increase marshland areas.

### *2.3.4 San Joaquin County*

#### 2.3.4.1 San Joaquin County General Plan

The *San Joaquin County General Plan 2010* was adopted in 1992. The plan's Resources Element addresses protection of biological resources, including wetlands; riparian areas; rare, threatened, and endangered species and their habitats; and potentially rare or commercially important species, vernal pools, significant oak groves, and heritage trees. Five policies from the Resources Element are considered applicable to the Delta Plan (San Joaquin County 1992).

#### 2.3.4.2 Ordinance Code of San Joaquin County

The Ordinance Code of San Joaquin County Division 15, Natural Resources Regulations, has five chapters that prescribe regulations for the protection, conservation, and/or managed use of specified natural resources. Currently two chapters—Chapter 9-1515, Wetlands, and Chapter 9-1520, Waterways—are reserved. Chapter 9-1525, Mineral Resources Protection, provides regulations to protect mineral resources shown as Open Space/Resource Conservation areas on the general plan 2010 map from urban development or encroachment. Chapter 9-1505, Trees, protects the county's tree resources and applies to development projects requiring discretionary approval that have native oak trees, heritage oak trees, or historical trees on the property. The chapter describes removal and replacement requirements, development constraints, landscaping requirements, and general exemptions.

Chapter 9-1510, Riparian Habitat, describes preservation of the county's riparian habitat and applies to all development projects requiring discretionary approval. Actions that have the potential to destroy, eliminate, or degrade riparian habitat are not to be permitted unless the loss is in the public interest or the loss of habitat would be mitigated through a mitigation plan that is part of the conditions of approval. The chapter establishes provisions for preparing a riparian habitat mitigation plan and maintenance of natural bank buffers parallel to any natural bank of a waterway.

#### 2.3.4.3 City of Tracy General Plan

The City of Tracy is located within the southern portion of the Delta. Its General Plan (City of Tracy 2011) contains a goal for protecting rare, endangered, and threatened plant and animal species and preserving the habitats that support them. The City achieves this goal primarily through participation with the San Joaquin Council of Governments and other agencies to implement and enforce the San Joaquin Multi Species Habitat Conservation and Open Space Plan.

#### 2.3.4.4 City of Stockton General Plan

The Stockton General Plan 2035 Goals and Policy Report (City of Stockton 2007) includes an element that outlines the city's long-term goals and policies regarding the protection of natural resources. These policies address enhancement and preservation of sensitive environmental resources; preservation, restoration, and enhancement of sensitive and special status species; management of wetland and riparian plant communities. The plan also requires the city to continue to coordinate with the San Joaquin Council of Governments and comply with the terms of the Multi Species Habitat Conservation and Open Space Plan.

The plan specifically addresses the protection of Delta habitats with policies that protect the fisheries and riparian habitat of the Delta and waterways from damage caused by the operation of marinas or the Port of Stockton and require proposed activities in the Delta and related waterways to be consistent with the sensitive environmental characteristics of these areas.

#### 2.3.4.5 City of Lathrop General Plan

The City of Lathrop is situated adjacent to the San Joaquin River in the southern portion of the Delta. The General Plan (City of Lathrop 1991) contains several policies that relate to vegetation, fish, and wildlife. These policies seek to retain habitat, avoid the net loss of wetlands, prevent discharge of contaminated surface waters to waterways, and promote cooperative approaches among landowners to manage farmlands to increase the numbers of desirable species of wildlife.

### *2.3.5 Contra Costa County*

#### 2.3.5.1 Contra Costa County General Plan

The *Contra Costa County General Plan* was adopted in 1991 and amended in 1996 and 2005 to reflect changes to the Land Use Map and the incorporation of the City of Oakley (Contra Costa County 2005). Three goals in the Conservation Element of the general plan provide broad guidance on preservation of plant and animal habitat in the county. The element also identifies policies that are intended to protect natural habitat, ecological resources, and riparian zones in the county (Contra Costa County 2005). Contra Costa County is a participant in the East Contra Costa HCP/NCCP.

#### 2.3.5.2 Ordinance Code of Contra Costa County

The Ordinance Code of Contra Costa County Chapter 816-4, Heritage Tree Preservation District, regulates the removal of heritage trees, requires protection of trees during construction, and promotes the appreciation and understanding of heritage trees. All lands in Contra Costa County are part of the Heritage Tree Preservation District. The process for designating heritage trees is described as are the requirements and process for obtaining tree permits. Chapter 816-6, Tree Protection and Preservation, provides for preservation of protected trees in the unincorporated area of the county and on private property for reasons outlined in the ordinance. The ordinance defines protected trees and outlines the requirements for granting tree permits.

#### 2.3.5.3 City of Oakley General Plan

The *City of Oakley General Plan* was adopted in 2002. The Open Space and Conservation Element of the plan addresses protecting and enhancing environmental resources, including biological resources in the Delta. The Open Space and Conservation Element includes goals and policies relevant to preserving and enhancing biological resources (City of Oakley 2002). The City of Oakley is a participant in the East Contra Costa HCP/NCCP.

#### 2.3.5.4 City of Antioch General Plan

The City of Antioch General Plan, adopted in 2003, contains a resource management element for biological resources that is intended to preserve natural streams and habitats that support rare and endangered species of plants and animals (City of Antioch 2003). This element includes biological resources policies related to preservation and restoration of wetlands and riparian resources, setbacks adjacent to natural streams, special-status species habitats and water quality protection, protection of sensitive habitat areas, and protection of mature oak trees.

#### 2.3.5.5 City of Pittsburg General Plan

The City of Pittsburg is situated on the southern border of Suisun Bay, in the northern portion of Contra Costa County, most of which is located in the Delta. The City of Pittsburg General Plan (City of Pittsburg 2001), adopted in 2001, has been amended several times. The plan includes several policies related to the

resources addressed by the Delta Plan. The City of Pittsburg is a participant in the East Contra Costa HCP/NCCP.

#### 2.3.5.6 City of Brentwood General Plan

Most of the incorporated area of the City of Brentwood is situated within the Delta. The city's General Plan (City of Brentwood 1993) contains several policies that are intended to preserve vegetation and associated wildlife habitat in the Brentwood Planning Area by protecting or restoring habitat values. The City of Brentwood is a participant in the East Contra Costa HCP/NCCP.

### *2.3.6 Alameda County*

#### 2.3.6.1 Alameda County Ordinance Code

The Alameda County Ordinance Code Chapter 12.11.120 regulates the planting, maintenance, and removal of trees in the county right-of-way, defined as land reserved for use by the county or any other public entity. The ordinance sets forth the conditions requiring, and the criteria for, issuance of tree permits. The ordinance outlines the requirements for protecting trees and those for planting, maintaining, and removing trees.

#### 2.3.6.2 East County Area Plan

Land use planning in the eastern portion of Alameda County is governed by the *East County Area Plan*, which was adopted by the county in 1994. In 2000, the Alameda County electorate approved Measure D, the Save Agriculture and Open Space Lands Initiative, which amended portions of the county's general plan, including the *East County Area Plan* (Alameda County 1994).

The Open Space Element of the *East County Area Plan* addresses sensitive lands and regionally significant open space, including biological resources (Alameda County 1994).

### *2.3.7 Habitat Conservation Plans and Natural Community Conservation Plans*

#### 2.3.7.1 San Joaquin County Multi-Species Habitat Conservation and Open Space Plan

The San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) provides comprehensive measures to minimize and mitigate effects of open space conversion on various biological resources and habitats, and to compensate for some effects on recreational, agricultural, scenic enjoyment, and other beneficial open space uses (San Joaquin Council of Governments 2000). In the SJMSCP, it is anticipated that 109,302 acres of various categories of open space lands (including agriculture, range lands, and natural habitat) in the county would be converted to non-open space uses between 2001 and 2051, based on full build out of each of the general plans in the county, and construction of all anticipated transportation and other public projects.

The SJMSCP is administered on behalf of the plan participants by a joint powers authority (JPA) (San Joaquin Council of Governments 2000). The permitting agencies are DFG and USFWS. The SJMSCP allows plan participants (San Joaquin Council of Governments, San Joaquin County, and the cities of Escalon, Lathrop, Lodi, Manteca, Ripon, Stockton, and Tracy) to obtain incidental take permits by mitigating effects on SJMSCP-covered species resulting from open space land conversion..

The SJMSCP covers the following activities in San Joaquin County: urban development, mining, expansion of existing urban boundaries, nonagricultural activities occurring on agriculturally zoned properties, projects that could affect fisheries or wetlands indirectly and that are located within non-jurisdictional waters (i.e., not subject to USACE CWA section 404 permitting authority), transportation projects, school expansions, non-federal flood control projects, new parks and trails, utility installation, maintenance activities, managing preserves, and similar public agency projects (San Joaquin Council of Governments 2000). These activities can be undertaken by both public and private individuals operating in San Joaquin County.

Ninety-seven species of animals and plants are covered by the SJMSCP (San Joaquin Council of Governments 2000). SJMSCP-covered habitat types described in the conservation strategy include various forest types, riparian habitats, vernal pool habitat and other non-vernal pool wetlands, mixed habitat types, and agricultural lands. The SJMSCP Conservation Strategy relies on minimizing, avoiding, and mitigating effects on species covered by the SJMSCP. Minimization of effects takes a species-based approach, emphasizing both the implementation of incidental-take minimization measures aimed at averting the actual killing or injury of individual SJMSCP-covered species and the minimization of effects on habitat for such species on open space lands converted to non-open space uses. The Plan identifies zones distinguished by a discrete association of soil types, water regimes (e.g., Delta lands subject to tidal influence, irrigated lands, lands receiving only natural rainfall), elevation, topography and vegetation types. In general, impacts within a particular zone are mitigated within the same zone.

#### 2.3.7.2 East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan

The East Contra Costa County HCP/NCCP provides a framework to protect natural resources in eastern Contra Costa County, while improving and streamlining the environmental permitting process. The plan provides certainty to Contra Costa County; the Contra Costa County Flood Control and Water Conservation District; the East Bay Regional Park District; several cities; and individual permittees (i.e. project proponents) regarding permitting for activities and projects in the region, while providing comprehensive species, wetlands, and ecosystem conservation and actions that are designed to contribute to the recovery of endangered species in northern California (East Contra Costa County Habitat Conservation Plan Association 2006). Between July 24, 2007 and August 6, 2007, DFG and USFWS approved the HCP/NCCP and the implementing agreement, and issued regional permits to the local agency permittees. The plan and permits will be in effect for a period of 30 years.

The HCP/NCCP Inventory Area covers approximately 175,000 acres in the eastern portion of Contra Costa County. The Inventory Area includes lands identified for development and for preserves under the HCP/NCCP. Within the Inventory Area, the Plan will provide permits for between 8,670 and 11,853 acres of development and will permit impacts on an additional 1,126 acres from rural infrastructure projects. The Preserve System to be acquired under the Plan will encompass 23,800 to 30,300 acres of land that will be managed for the benefit of 28 covered species as well as the natural communities that they, and hundreds of other species, depend upon. A relatively small portion of the HCP/NCCP area approved for development overlaps with the lower western edge of the Delta. Proposed coverage for 28 species includes mammals, birds, reptiles, amphibians, invertebrates, and plants (East Contra Costa County Habitat Conservation Plan Association 2006).

Covered activities in this HCP/NCCP fall into three categories:

- All activities and projects associated with urban growth within the urban development area, which corresponds to the urban limit line
- Activities and projects that occur inside the HCP/NCCP preserves
- Specific projects and activities outside the urban development area

#### 2.3.7.3 Conservation Plans under Development

In addition to the habitat and natural community conservations plans described above, three conservation planning efforts with coverage in the Delta are under way: the Yolo County Habitat Conservation Plan/Natural Community Conservation Plan, Solano Habitat Conservation Plan, and Bay Delta Conservation Plan.

*Yolo County Habitat Conservation Plan/Natural Community Conservation Plan*

The Yolo County Habitat JPA, comprised of five local public agencies and the University of California, Davis, began the Yolo Natural Heritage Program in March 2007. This effort includes the continuing preparation of a joint HCP/NCCP for all of Yolo County. The member agencies are Yolo County, the City of Davis, the City of Woodland, the City of West Sacramento, the City of Winters, and the University of California, Davis, as an ex-officio member.

The HCP/NCCP will describe the measures that local agencies will implement to conserve biological resources, obtain permits for urban growth and public infrastructure projects, and continue to maintain the agricultural heritage and productivity of the county. The nearly 653,820-acre planning area provides habitat for 65 listed and at-risk species occurring within five dominant habitats/natural communities. The JPA expects to approve the HCP/NCCP in 2011. Interim conservation activities include acquiring permanent conservation easements for sensitive species habitat in the plan area.

*Solano Habitat Conservation Plan*

The Solano HCP would address future urban growth, development of infrastructure, and ongoing operations and maintenance activities associated with flood control, irrigation facilities, and other public infrastructure undertaken by or under the permitting authority/control of plan participants (Solano County Water Agency, Solano Irrigation District, Maine Prairie Water District, Suisun City, and the cities of Vacaville, Fairfield, and Vallejo) within Solano County over the next 30 years. Reclamation District No. 2068, Vallejo Sanitation and Flood Control District, Fairfield-Suisun Sewer District, Dixon Resource Conservation District, Dixon Regional Watershed Joint Powers Authority, and the cities of Dixon and Rio Vista have chosen to voluntarily participate in the Solano HCP.

Implementation of the Solano HCP Conservation Strategy is expected to result in the establishment of a reserve system that would preserve and manage an additional 10,500 to 11,500 acres of valley floor/vernal pool grassland habitat for species such as the vernal pool fairy shrimp, vernal pool tadpole shrimp, Conservancy fairy shrimp, and California tiger salamander; preserve and manage approximately 6,700 acres of irrigated agricultural habitat and associated nesting habitat and 1,000 acres of grassland/oak savanna habitat for Swainson's hawks and burrowing owls; provide additional sources of funding for management and restoration of Suisun Marsh and Delta waterways within the Plan Area to improve water quality and control invasive species on 5,000 to 8,500 acres of coastal marsh habitat; and restore and manage an additional 175 acres of aquatic habitat and approximately 120 acres of associated upland habitat for giant garter snake.

*Bay Delta Conservation Plan*

The Bay Delta Conservation Plan is a proposed HCP and NCCP that will address the take of covered species resulting from the continued operation of the State and Federal water projects and provide the basis for the issuance of incidental take permits through USFWS, NMFS, and DFG. The plan will cover a 50-year planning period, and will describe a long-term conservation strategy that sets forth actions needed support a healthy Delta ecosystem. As described in Section 23 of this EIR, Bay Delta Conservation Plan, the BDCP will be incorporated into the Delta Plan if certain conditions are met.

### 2.3.8 Central Valley Joint Venture

The Central Valley Joint Venture (CVJV) is a coalition consisting of 21 State and Federal agencies, private conservation organizations and one corporation. The partnership directs its efforts toward the common goal of providing for the habitat needs of migrating and resident birds in the Central Valley of California. The CVJV was established in 1988 as a regional partnership focused on the conservation of waterfowl and wetlands under the North American Waterfowl Management Plan. It has since broadened its focus to the conservation of habitats for other birds, consistent with major national and international bird conservation plans and the North American Bird Conservation Initiative.

The Central Valley Habitat Joint Venture Implementation Plan, last updated in 2006 (CVJV 2006), identifies conservation objectives for shorebirds, waterbirds, and riparian songbirds within the Central Valley, including the Delta. For wintering waterfowl in the Delta Basin, the plan includes a conservation goal of restoring 19,000 acres of wetlands and enhancing 23,000 acres of agricultural land.

# 3.0 Delta Flood Risk Regulatory Framework

California has a long history of flood management that started with the arrival of settlers in the Central Valley and the reclamation of lands in the Delta in the 1800s. The Central Valley and the Delta are prone to major flooding events because of abundant rainfall in the Sierra Nevada, major rivers carrying flood flows, and low elevations in the Delta. Flood management in California historically was based on physical modifications of stream channels and construction of flood control structures such as dams and reservoirs. More recently, flood management uses a more integrated approach, which includes a mix of structural and non-structural (e.g. land use practices) approaches.

The first levees in the Delta were built in the 1860s through the 1880s by local land owners to protect their lands for farming and other purposes. Reclamation districts also constructed and maintained levee systems to reclaim marshland. In 1911, one of the first pieces of legislation to provide more comprehensive flood protection in the Delta created the Reclamation Board, whose purpose was to implement a comprehensive flood-control plan for the Sacramento and San Joaquin rivers. The USACE was responsible for dredging the Stockton Deep Water Ship Channel in 1933 and the Sacramento Deep Water Ship Channel in 1963. Major levee improvements took place in the 1930s through the 1950s. In 1988, the Legislature passed Senate Bill 34, which provided $120 million over a 10-year period for the DWR to rebuild Delta levees, enlarge channels, and help reclamation districts make levee improvements.

In 2005, California began to refocus on the deteriorating condition of the levees of the Delta region. As a result, many bills, bonds and other proposals were put before the Legislature. These recent bills and the implementing State agencies are discussed later in this section.

Many federal, State, and local agencies have regulatory authorities and responsibilities for flood management activities in the Delta. Federal agencies include the Federal Emergency Management Agency (FEMA) and USACE. State agencies include DWR and the Central Valley Flood Protection Board (CVFPB). Local agencies include flood control, reclamation, and levee districts, and counties and cities. These agencies are governed by applicable regulations and are granted certain roles and responsibilities with regard to levee conditions and maintenance, surface water, and floodplain management as described later in this section. Many of the levee maintenance and improvement activities by these different agencies are also subject to environmental regulations enforced by agencies such as USFWS, NMFS, and DFG. Funding programs and the flood damage liability are also discussed in this section.

## 3.1 Federal Regulatory Framework

### *3.1.1 Federal Emergency Management Agency*

FEMA establishes and maintains minimum federal standards for floodplain management within the United States and its territories. The agency plays a major role in managing and regulating floodplains. FEMA provides minimum requirements for the management of floodplain areas by local communities, which are defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to flooding. The 100-year floodplain is the area subject to a 1 percent or greater chance of flooding in any given year. FEMA also helps develop the Flood Insurance Rate Maps (FIRMs), which delineate the Special Flood Hazard Areas (SFHAs) and the risk premium zones applicable to the community for flood insurance purposes.

#### 3.1.1.1 National Flood Insurance Program

The National Flood Insurance Program (NFIP) is administered by FEMA and has two main components:

- Floodplain management assistance
- Flood insurance assistance

Property owners purchase insurance against losses from physical damage or the loss of buildings and their contents caused by floods, flood-related mudslides, or erosion. Insurance is available to property owners belonging to communities that participate in the NFIP. The NFIP is administered by the Federal Insurance Administration under FEMA. Participation in the NFIP also makes communities eligible for federal flood disaster assistance. For a community to be eligible to participate in the NFIP, it must adopt a local floodplain management ordinance that meets or exceeds the minimum federal standards defined in the CFR at Title 44, Chapter 1, Parts 60 through 65 (44 CFR Parts 60-65). The ordinance should specify minimum requirements for any construction within the 100-year floodplain. Guidance and criteria for a professional engineer to certify data submitted to support that a levee complies with requirements associated with providing a 100-year level of flood protection are provided in 44 CFR Part 65.10. The major criteria include freeboard, closure structures, embankment protection, embankment and foundation stability, settlement, interior drainage, and other design criteria. Operation and maintenance requirements are also provided. FEMA is not responsible for evaluating these levees; the evaluation is performed by others, which leads to FEMA accreditation when FEMA adopts the certification completed by a professional engineer. Participating communities must adhere to all floodplain management requirements, with oversight from FEMA, for all activities that may affect floodplains within the SFHAs.

As part of the NFIP, FEMA provides one or more FIRMs. Each FIRM contains flood zones used to determine a community's flood insurance rates and floodplain development restrictions. Delineated flood zones represent areas with similar flood risk, flood-protection infrastructure, flood-protection infrastructure certifications, and designated floodways The FIRM identifies which communities are federally required to carry flood insurance.

#### 3.1.1.2 Floodplain Management Regulations

As described above, FEMA requires that local communities adopt and enforce floodplain management regulations that meet or exceed federal regulations for SFHAs in order to be eligible to participate in the NFIP. SFHAs are subject to floodplain management regulations, including building limitations, and the mandatory purchase of flood insurance. The floodplain regulations are primarily set forth in 44 CFR Part 60.3 and 44 CFR Part 65.12. These federal regulations are intended to address the need for effective floodplain management and provide assurance that the cumulative effects of floodplain encroachment do not cause more than a 1-foot rise in water surface elevation after the floodplain has been identified on the FIRM. Local flood ordinances can set a more stringent standard. The absence of a detailed study or floodway delineation places the burden on the project proponent to perform an appropriate engineering analysis to prepare hydrologic and hydraulic analyses consistent with FEMA standards. These analyses are then used to evaluate the proposed project "with all other existing and anticipated development" (44 CFR Part 60.3). Defining future anticipated development is difficult. The purpose of this requirement is to avoid inequitable encroachments into the floodplain.

Projects that are discovered to cause any increase in water surface elevations are subject to the provisions of 44 CFR Part 65.12, "Revision of flood insurance rate maps to reflect base flood elevations caused by proposed encroachments."

The provisions of this regulation require either demonstration that the proposed project would cause no effect on the base flood elevation (elevation of surface water resulting from a flood that has a 1 percent chance of equaling or exceeding that level in any given year) identified on the FIRM, or else the project must obtain a Conditional Letter of Map Revision before permitting the project for construction. If the

project causes no effect on the base flood elevations, it can be approved by the floodplain administrator for the community without any approvals by FEMA or Conditional Letter of Map Revision submittals to FEMA. However, the floodplain administrator can require a Conditional Letter of Map Revision if it is believed that the project is of sufficient complexity to warrant FEMA's review. The minimum federal regulatory requirement pertaining to encroachments into the floodway is defined by 44 CFR Part 60.3(d)(3):

> Prohibit encroachments, including fill, new construction, substantial improvements, and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.

This regulation applies only to encroachments into the floodway. When there is such an encroachment, the appropriate FEMA effective hydraulic model for the area should be used to evaluate the impacts and mitigation options for the encroachment. A FEMA effective hydraulic model is a computer model that has met the requirements of the NFIP regulations and which is authorized to be used for flood hazard mapping.

#### 3.1.1.3 Flood Insurance Rate Maps

FEMA is a primary source of present flood risk information. A key element of the program uses Flood Insurance Studies to produce FIRMs. The maps show SFHAs, areas subject to inundation by a 1 percent annual chance flood (100-year flood). SFHAs include areas described as "A" zones, or areas where mandatory flood insurance purchase requirements and floodplain management standards apply.

Areas not in the "A" zones generally are less likely to flood because of ground elevation or protection by a certified levee or other protective feature. Nevertheless, it still may be advisable to purchase flood insurance to protect against "residual risk." This is because the 100-year flood is not a safety standard, but an insurance standard; the cost of insurance outside of an "A" zone is generally substantially less than within an "A" zone.

In 2006, FEMA initiated a nationwide Flood Insurance Rate Map Modernization Project (FEMA 2010c). This project includes a strict review of levees protecting low-lying areas to confirm that they meet FEMA criteria required for mapping a protected area as not being in a SFHA; that is, not subject to inundation by a 1 percent annual chance flood. Most areas of the Delta that were previously indicated as protected by levees (and therefore not included in SFHAs) are having difficulty proving that their levees are adequate to meet FEMA levee design requirements, described immediately below. Some areas are initiating upgrade projects, such as West Sacramento and Reclamation District 17 (Lathrop). For the most part, these are urban areas on the outer edges of the Delta. Revised FEMA maps are being issued over several years, as part of this project.

FEMA maps indicate that much of the central Delta, essentially all of the non-urban Delta, is within SFHAs and considered to be subject to inundation by the 1 percent annual chance flood. The urban areas at the edges of the Delta (West Sacramento, Sacramento, Stockton, Mossdale, etc.) are working to preserve their levee accreditation and thereby avoid being indicated as "A" zones.

#### 3.1.1.4 FEMA Levee Design and Maintenance Requirements

For levees to be accredited by FEMA, and to allow communities to participate in Preferred Risk programs of the NFIP, evidence must be provided that adequate design, operation, and maintenance systems are in place to provide reasonable assurance that protection from the base flood (1 percent annual chance of

exceedance or 100-year flood) exists. These requirements are outlined in 44 CFR, Volume 1, Chapter I, Part 65.10 and summarized as follows:

- Freeboard. Riverine levees must provide a minimum freeboard of 3 feet above the water surface level of the base flood. An additional 1 foot above the minimum is required within 100 feet on either side of structures (such as bridges) riverward of the levee or whatever the flow is constructed. An additional 0.5 foot above the minimum at the upstream end of the levee, tapering to not less than the minimum at the downstream end of the levee, is also required.
- Closure. All openings must be provided with closure devices that are structural parts of the system during operation and designed according to sound engineering practice.
- Embankment protection. Engineering analyses must be submitted demonstrating that no appreciable erosion of the levee embankment can be expected during the base flood as a result of either currents or waves, and that anticipated erosions will not result in failure of the levee embankment or foundation directly or indirectly through reduction of the seepage path and subsequent instability.
- Embankment and foundation stability. Engineering analyses that evaluate levee embankment stability must be submitted. The analyses provided shall evaluate expected seepage during loading conditions associated with the base flood and shall demonstrate that seepage into or through the levee foundation and embankment will not jeopardize embankment or foundation stability.
- Settlement. Engineering analyses must be submitted that assess the potential and magnitude of future losses of freeboard as a result of levee settlement and demonstrate that freeboard will be maintained within the minimum standards.
- Interior drainage. Analysis must be submitted that identifies the source(s) of such flooding, the extent of the flooded area, and, if the average depth is greater than 1 foot, the water surface elevation(s) of the base flood.
- Operation plans. For a levee system to be recognized, a formal plan of operation must be provided to FEMA. All closure devices or mechanical systems for internal drainage, whether manual or automatic, must be operated in accordance with an officially adopted operational manual, a copy of which must be provided to FEMA.
- Maintenance Plans. Levee systems must be maintained according to an officially adopted maintenance plan. All maintenance activities must be under the jurisdiction of a federal or State agency, an agency created by the federal or State law, or an agency of a community participating in the NFIP that must assume ultimate responsibility for maintenance. The plan must document the formal procedure that ensures that the stability, height, and overall integrity of the levee and its associated structures and system are maintained. At a minimum, maintenance plans shall specify the maintenance activities to be performed, the frequency of their performance, and the person, by name or by title, responsible for their performance.

The information submitted to support that the levee complies with the above requirements must be certified by a registered professional engineer. Certified as-built plans of the levee also must be submitted.

#### 3.1.1.5 FEMA Hazard Mitigation Plan

State, Tribal, and local governments are required to develop a hazard mitigation plan as a condition to be eligible for receiving certain types of non-emergency disaster assistance, including funding for mitigation projects. The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288), as amended by the Disaster Mitigation Act of 2000, provides the legal basis for State, local, and Tribal

governments to undertake a risk-based approach to reducing risks from natural hazards through mitigation planning. The requirements and procedures for State, Tribal, and local mitigation plans are found in 44 CFR Part 201. FEMA's Multi-Hazard Mitigation Planning Guidance is the official guidance for State, local, and Tribal governments to meet the requirements of the mitigation planning regulations under the Stafford Act and 44 CFR Part 201.

## *3.1.2 U.S. Army Corps of Engineers*

The following discussion provides an overview of USACE's regulatory responsibilities that apply to navigable waters and construction within the ordinary high water mark of other waters of the United States. In addition, USACE constructs flood control and risk management projects, monitors their operations and maintenance, and provides emergency response to floods. These functions are also described in this section.

### 3.1.2.1 Flood Control Act of 1936

USACE constructs local flood control and risk management projects and navigation projects in the Delta. The Flood Control Act of 1936 established a nationwide policy that flood control on navigable waters or their tributaries is in the interest of the general public welfare and is, therefore, a proper activity of the federal government in cooperation with State and local entities. The Flood Control Act of 1936, its amendments, and subsequent legislation specify details of federal participation. Projects are either specifically authorized through legislation by Congress or through a small projects blanket funding authority.

### 3.1.2.2 USACE Rehabilitation and Inspection Program

The Rehabilitation and Inspection Program is the USACE program that provides for the inspection of flood-control projects, the rehabilitation of damaged flood-control projects, and the rehabilitation of federally authorized and constructed hurricane or shore-protection projects. Levees in the program are eligible for federally funded repair and rehabilitation for damage induced by flood events, provided funding is available. The project levees in the Delta, those levees previously authorized or constructed under a federal flood-control project, are eligible for the program as long as the non-federal sponsor maintains the levees to certain federal standards. Repairs and rehabilitation are accomplished under provisions of Public Law 84-99, with some cost-sharing normally required for non-project levees. Non-project levees are managed and maintained by local districts, as opposed to project levees, which are part of a larger regional or State project, and managed and maintained by a federal or State agency.

For non-project levees in the Delta to be eligible, the local maintaining agency must first apply for participation into the program. To be admitted, the levees must meet certain requirements, and be maintained to federal levee standards, and pass a rigorous initial inspection. They must also pass subsequent routine inspections to remain in the program. Very few levees in the central Delta meet these standards or pass the initial inspections. Remaining in the program will be more challenging in the future, even for project levees, because the USACE has begun enforcing more stringent vegetation standards that call for no woody vegetation on levees or within 15 feet of levees (see Subsection 1.2.1.15 of this EIR). These standards may also affect the design of habitat restoration projects on the water side of existing levees.

#### *Public Law 84-99, Delta Specific Standard*

This levee standard established minimum freeboard and geometry requirements for levees in the Delta to be eligible for the Public Law 84-99 rehabilitation program. The standard was developed by the USACE, Sacramento District in 1987 (USACE 1987).

#### 3.1.2.3 USACE Navigation Projects

Federal interest in navigation is established by the Commerce Clause of the Constitution and court decisions defining the right to improve and protect navigable waterways in the public's interest. USACE navigation projects in the Delta include Suisun Bay Channel, Sacramento River Deep Water Ship Channel, and Stockton Deep Water Ship Channel. Associated with navigation is the *Long Term Management Strategy for Delta Sediments* (USACE 2006). This is a plan to coordinate and manage dredging for navigation, flood risk management, water conveyance, and recreation; stabilize levees; and protect ecosystems. Technical workgroups are engaged in pilot studies, preparing orders and permits for dredging and beneficial reuse, and compliance with environmental laws. The Suisun Channel in the Suisun Marsh is a USACE navigation project to maintain a navigable connection between Suisun City and Grizzly Bay (USACE 2010).

#### 3.1.2.4 Clean Water Act

The CWA established the basic structure for regulating discharges of pollutants into waters of the United States and gave the USEPA the authority to implement pollution control programs such as setting wastewater standards for industry (refer to Section 3 of this EIR, Water Resources).

Section 404 of the CWA establishes programs to regulate the discharge of dredged and fill material into waters of the United States, including wetlands. Activities in waters of the United States that are regulated under this program include fills for development, water resource projects (for example, dams and levees), infrastructure development, and conversion of wetlands to uplands for farming and forestry. Under section 404, any person or public agency proposing to locate a structure, excavate, or discharge dredged or fill material into waters of the United States or to transport dredged material for the purpose of dumping it into ocean waters must obtain a permit from the USACE. The USACE has jurisdiction over all waters of the United States including perennial and intermittent streams, lakes, ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. CWA section 404(b)(1) guidelines provide environmental criteria and other guidance used in evaluating proposed discharges of dredged materials into waters of the United States.

#### 3.1.2.5 Operations and Maintenance Controls, Flood Control Projects

The maintenance and operation of federal project levee structures and facilities is discussed in 33 CFR Part 208.10. According to these regulations, "No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any change be made in any feature of the works without prior determination by the District Engineer of the Department of the Army or his authorized representative that such improvement, excavation, construction, or alteration will not adversely affect the functioning of the protective facilities." (33 CFR Part 208.10 (5)). This regulation is the basis for requiring a permit prior to any construction at federal project levees. Types of alterations and modifications typically covered by a section 208 permit include bridges, pump houses, stairs, pipelines, bike trails, and power poles. Major modifications or improvements to levees require approval through a section 408 permit process (see next section).

#### 3.1.2.6 Rivers and Harbors Act of 1899

Detailed information on this act is provided in Section 3.0, Water Resources Regulatory Framework. The Secretary of the Army, on the recommendation of the Chief of Engineers, may grant permission for the temporary occupation or use of any sea wall, bulkhead, jetty, dike, levee, wharf, pier, or other work built by the United States (33 USC part 408 and section 14 of the Rivers and Harbors Act of 1899). This permission will be granted by an appropriate real estate instrument in accordance with existing real estate regulations. This regulation is used to require permits prior to modifications of federal project levees by parties other than the USACE. Types of alterations typically requiring a section 408 permit are major modifications such as degradations, raisings, and realignments of levees.

Sections 9 and 10 of the Rivers and Harbors Act of 1899 authorize the USACE to regulate the construction of any structure or work within navigable waters. The Rivers and Harbors Act of 1899 also authorizes USACE to regulate the construction of infrastructure such as wharves, breakwaters, or jetties; bank protection or stabilization projects; permanent mooring structures, vessels, or marinas; intake or outfall pipes; canals; boat ramps; aids to navigation; or other modifications affecting the course, location condition, or capacity of navigable waters. The USACE jurisdiction under the Rivers and Harbors Act is limited to "navigable waters," or waters subject to the ebb and flow of the tide shoreward to the mean high water mark that may be used to transport interstate or foreign commerce. The USACE must consider the following criteria when evaluating projects within navigable waters: (1) the public and private need for the activity; (2) reasonable alternative locations and methods; and (3) beneficial and detrimental effects on the public and private uses to which the area is suited.

#### 3.1.2.7 Emergency Flood Control Fund Act of 1955

In addition to regulatory activities, USACE has numerous projects and functions that can potentially affect activities in the Delta. The Emergency Flood Control Fund Act, Public Law 84-99, authorizes emergency funding and response for levee repairs and flood fighting.[2] USACE can provide flood fighting readiness within hours; however, this action is supplemental to services provided by local reclamation districts and State agencies. Public Law 84-99 also provides for the rehabilitation of levees and related structures following a flood event back to their pre-flood conditions, sometimes using only federal funds. USACE and DWR have a working relationship through a memorandum of understanding originally drafted in 1955 and amended since then (USACE 2005).

#### 3.1.2.8 Executive Order 11988, Floodplain Management

Under Executive Order 11988, all federal agencies are charged with floodplain management responsibilities when planning or designing federally funded projects or when considering any permit applications for which a federal agency has review and approval authority. These responsibilities include taking action to reduce the risks of flood losses, including adverse impacts on human safety, health, and welfare. Federal agencies also are charged with the responsibility of restoring the natural and beneficial values of floodplains. If a proposed action is located within a floodplain, measures should be identified to minimize flood hazards, and floodplain mitigation requirements should be incorporated into the proposed action.

The Water Resources Development Act of 2007, or Public Law 110-114, includes the National Levee Safety Act of 2007 (Title IX), which established the National Levee Safety Committee. This also authorized a report to Congress summarizing the condition of levees in the United States, including both federal and non-federal levees, and the creation of a national levee database.

### *3.1.3 U.S. Bureau of Reclamation*

Reclamation owns and manages several dams and distribution canals upstream and south of the Delta. Its upstream reservoirs and dams include such major facilities as Shasta, Folsom, New Melones, and Friant dams, as described in Section 3 of this EIR, Water Resources. These multipurpose facilities provide water supply, hydroelectric, flood control, recreation, fish and wildlife, and other benefits. Releases from these facilities flow through the Delta. Reclamation consults with the State, DWR, and USACE for reservoir operations to provide flood management, as described in Section 3 of this EIR, Water Resources.

### *3.1.4 1850 Swamp and Overflowed Lands Act*

In 1849, Congress granted Louisiana certain wetlands described as "swamp and overflowed lands, which may be or are found unfit for cultivation" in order to facilitate land reclamation and the control of

[2] "Flood fighting" can be defined as actions taken immediately before or during a flood to protect human life and reduce flood damages, such as emergency sandbagging and diking.

flooding. On September 28, 1850, Congress passed a subsequent Swamp and Overflowed Lands Act to convey similar public lands to twelve other states with no cost. This act, sometimes referred to as the Arkansas Act, also applied to California. The only requirement of the act was that the states use the funds they realized from the sale of these lands to ensure that they would be drained, reclaimed, and put to productive agricultural uses. The State of California received 2,192,506 acres of land, which included 549,540 acres in the Sacramento Valley and approximately 500,000 acres in the Sacramento-San Joaquin Delta.

### *3.1.5 Flood Damage Liability and the Paterno Decision*

The USACE and other federal agencies are afforded immunity from liability of any kind for damages arising from flood events through the provisions of the Flood Control Act of 1928. The primary purpose of the immunity provision was to avoid having to pay flood damages in addition to the very substantial costs of flood control projects that were being contemplated by the federal government. However, this immunity is not enjoyed by parties outside the federal government. The most notable recent court decision on flood liability was the November 2003 *Paterno vs. State of California* decision. The California Court of Appeals found the State liable, by inverse condemnation, for damages incurred by flooded residents as a result of a levee failure on the Yuba River, near Marysville, during the 1986 flood. The State was held responsible for defects in a Yuba County levee foundation that existed when the levee was constructed by local agricultural interests in the 1930s and later incorporated into the Sacramento River Flood Control Project. In this case, the State of California was the non-federal sponsor for the federal flood control project and accepted the project from the USACE when it was completed. The State also gave assurances to the federal government that the levee would be maintained to federal standards even though the State later turned over the maintenance of the levee to a local maintaining agency, Reclamation District 784. The Court found that when a public entity operates a flood control system built by someone else, it accepts liability as if it had planned and built the system. So, the State of California was held liable and settled with the plaintiffs for an award of approximately $500 million for a levee that the State neither designed, nor built, or even directly maintained. The court also found that the State of California had an inadequate State Plan of Flood Control. The Paterno decision suggests that it may be possible the State will ultimately be held responsible for the structural integrity of much of the federal flood control system in the Central Valley, approximately 1,600 miles of State-Federal project levees that protect more than half a million people and property exceeding $50 billion in value. This large potential liability has led to the development of the FloodSAFE California program and the bond funds available for the Central Valley, as described in Section 1.3.2, State Regulatory Framework.

The Paterno liability is generally not considered applicable to non-project levees (levees which are not maintained by the State government and are considered the responsibility of local agencies and individual owners) in the Delta as the State never accepted these projects from the federal government because they were never part of a federal flood control project.

In another California court case, *Arreola vs. Monterey County*, local agencies were held liable in July 2002 for 1995 flood damages to property owners that resulted from a failure to properly maintain the Pajaro River project. This decision exposes all levee maintaining organizations, including the State, to major future liabilities.

## 3.2 State Regulatory Framework

In 1861, the State Legislature created the Board of Swamp and Overflowed Land Commissioners in an attempt to systematically manage reclamation projects. The Board's authorities were later transferred to the counties in 1866. The 1868 State Tideland Overflow and Reclamation Act was passed to facilitate the transfer of publicly-owned tidelands and wetlands to private ownership for agricultural use of these lands. The 1868 Act provided for the formation of reclamation districts to manage the reclamation process where lands were considered susceptible to reclamation.

As the emphasis on integrated flood management has increased, the State has created several agencies that oversee special flood programs and enforce flood-related legislations. DWR was formed in the 1950s, primarily to manage water supplies in the state. In the early 2000s, several pieces of legislation were passed to provide DWR with authority to manage statewide flood issues. One example of DWR's flood management activities is the development of the FloodSAFE program, which is described later in this section. Other agencies with flood management authorities in the Delta include the DPC and the CVFPB. State agencies operate in cooperation with federal and regional agencies.

## *3.2.1 Department of Water Resources*

DWR's mission is to manage the State's water resources, in cooperation with other agencies, to benefit the public and to protect, restore, and enhance the natural and human environments. Within this mission, DWR's goal, as related to flood, is to "protect public health, life, and property by regulating the safety of dams, providing flood protection, and responding to emergencies." DWR meets these responsibilities through the following activities (DWR Web site and Wat. Code section 6000):

- Supervising design, construction, enlargement, alteration, removal, operation, and maintenance of more than 1,200 jurisdictional dams
- Encouraging preventive floodplain management practices; regulating activities along Central Valley floodways
- Maintaining and operating specified Central Valley flood-control facilities
- Cooperating in flood-control planning and facility development
- Maintaining the State-Federal Flood Operations Center and the Eureka Flood Center to provide flood advisory information to other agencies and the public
- Cooperating and coordinating in flood emergency activities and other emergencies
- DWR also owns and operates the State Water Project (SWP), with numerous water storage and conveyance facilities throughout the state. DWR exports water from the Delta at its North Bay Pumping Plant at Barker Slough and at the Harvey O. Banks Pumping Plant in the south Delta.

### 3.2.1.1 FloodSAFE

Despite the amount of work performed to maintain and strengthen Delta levees' resistance to floods over the past 25 years, the level of flood protection provided by Delta levees is low and often less than warranted. As a result, two major bonds were passed in 2006 (Propositions 84 and 1E) with funding to upgrade planning, flood management, and the flood-control facilities in the State, particularly in the Central Valley, including the Delta. The bonds provide approximately $4.9 billion for flood-risk reduction.

A second major result was a 2007 legislation package, which includes SBs 5 and 17 and ABs 5, 70, and 156. An additional bill supplementing the package (AB 162) also was passed in 2007 and requires "additional consideration of flood risk in local land use planning throughout California." A recent DWR publication summarizes this legislation (DWR 2010).

The legislation is being implemented by DWR through the FloodSAFE California program, including initiatives such as Central Valley Flood Management Planning, an "early implementation program" for flood system improvements, especially in urban areas, and continuation (with increased funding) of the Delta Levees Subvention and Special Projects Programs. Many of the FloodSAFE activities are midway in implementation and do not yet have definitive documents that estimate present and future flood risks. Preliminary flood risk maps have been produced and are discussed in more detail in later sections.

The DWR Division of Flood Management, together with other divisions in DWR, is carrying out the work of the FloodSAFE program, which partners with local, regional, State, Tribal, and federal officials in creating sustainable, integrated flood-management and emergency-response systems throughout California. The Division of Flood Management comprises six primary offices, which include:

- Hydrology and Flood Operations Office
- FloodSAFE Program Administration Office
- Central Valley Flood Planning Office
- Flood Projects Office
- Levee Repairs and Floodplain Management Office
- Flood Maintenance Office

The Delta Suisun Marsh Office was previously a component of the Division of Flood Management; however, it is now part of the Environmental Stewardship and Statewide Resources Office under the FloodSAFE Program. The Hydrology and Flood Operations Office is responsible for directing DWR's flood and water supply forecasting operations, hydrology and climatology studies, emergency flood operations, and flood-control project inspections and encroachment permitting. The Flood Projects Office is responsible for the planning, design, and construction of structural and nonstructural flood-control projects, including those sponsored by the CVFPB, local agencies, and the USACE, as well as implementing statewide flood-control grant programs. The Levee Repairs and Floodplain Management Office is responsible for administering programs aimed at reducing the threat of loss of life and damage to property through evaluation and direct rehabilitation of structural deficiencies in California's levee system, and through the encouragement and use of nonstructural alternatives and practices. The office, through its components, Levee Repairs, Levee Evaluations, and Floodplain Management, in coordination with the FloodSAFE Program Administration Office and the Central Valley Flood Planning Office, will develop the Central Valley Flood Protection Plan. The Flood Maintenance Office is responsible for the operation and maintenance of the federally constructed flood-control features in the Sacramento Valley as authorized by the Wat. Code sections 8361 and 12878 and cooperates with the USACE in repairing flood-damaged federal flood-control projects maintained under the authority of the CVFPB. Maintenance includes planning, environmental permitting and coordination, and design through the Maintenance Support Branch, and field operations through the Sutter Maintenance Yard and the Sacramento Maintenance Yard.

#### 3.2.1.2 Assembly Bill 1200

Assembly Bill 1200 (Laird 2005) highlighted the complex water issues in the Delta and directed DWR and DFG to report to the Legislature and Governor on the following:

- Potential impacts of levee failures on water supplies derived from the Delta because of future subsidence, earthquakes, floods, and effects of climate change
- Options to reduce the impacts of these factors
- Options to restore salmon and other fisheries that use the Delta estuary

The bill added section 139.2 of the Wat. Code: "The department shall evaluate the potential impacts on water supplies derived from the Delta based on 50-, 100-, and 200-year projections for each of the following possible impacts on the Delta:

- Subsidence
- Earthquakes
- Floods
- Changes in precipitation, temperature, and ocean levels
- A combination of these impacts"

DWR and DFG published their first evaluation report as required by AB 1200 in January 2008. The report, titled *Risks and Options to Reduce Risks to Fishery and Water Supply Uses of the Sacramento–San Joaquin Delta*, was issued in 2008 and summarizes the potential risks to water supplies in the Sacramento–San Joaquin Delta attributable to future subsidence, earthquakes, floods, and climate change. The report identifies potential improvements to reduce these risks (DWR and DFG 2008). This report was based in part on the information provided as part of the Delta Risk Management Strategy investigations and analyses, also developed in 2008 and mandated by DWR.

### *3.2.2 Central Valley Flood Protection Board*

The CVFPB, previously known as the Reclamation Board, was created in 1911. Its purpose was to help manage flood risks in the Central Valley on a systemwide basis through the development of a comprehensive flood-control plan for the Sacramento and San Joaquin rivers, and to act as the non-federal sponsor for federal flood-control projects in the Central Valley. The CVFPB has jurisdiction throughout the Sacramento and San Joaquin valleys, which is synonymous with the drainage basins of the Central Valley, and includes the Sacramento-San Joaquin Drainage District.

The CVFPB's mission is:

- To control flooding along the Sacramento and San Joaquin rivers and their tributaries in cooperation with the USACE
- To cooperate with various agencies of the federal, State, and local governments in establishing, planning, constructing, operating, and maintaining flood control works
- To maintain the integrity of the existing flood control system and designated floodways through its regulatory authority by issuing permits for encroachments

The CVFPB is a major partner for federal flood control works in the Central Valley. The CVFPB shares costs with the federal government and the local districts and provides land easements and rights-of-way for federal projects. The CVFPB assumes responsibility for operation and maintenance only after a local maintenance agency has agreed to assume ultimate responsibility for the operation and maintenance. The CVFPB also approves or denies plans for reclamation, dredging, or improvements that alter any project levee. It has authority to approve or deny any land reclamation plan (related to public works) or flood protection that involves excavation near rivers and tributaries, and has legal responsibility for oversight of the entire Central Valley flood management system.

The CVFPB also adopts floodway boundaries and approves uses within those floodways. The purpose of the designated floodway program is to control encroachments and development within the floodways and to preserve floodways to protect lives and property. Various uses are permitted in the floodways, such as agriculture, canals, low dikes and berms, parks and parkways, golf courses, sand and gravel mining, structures that will not be used for human habitation, and other facilities and activities that will not be substantially damaged by the base flood event and will not cause adverse hydraulic impacts that will raise the water surface in the floodway. A permit from CVFPB is required for most activities other than normal agricultural practices within the boundaries of designated floodways. The only designated floodways in the Delta are along the Cosumnes and Mokelumne rivers up to their confluence with each other and the Stanislaus River up to its confluence with the San Joaquin River.

Title 23 of the Cal. Code of Regs. and the Wat. Code provide guidance to DWR and CVFPB on how to enforce appropriate standards for flood control projects in the Central Valley. These codes provide DWR and CVFPB with the authority to enforce standards for the erection, maintenance, and operation of levees, channels, and other flood control works within their jurisdiction.

### 3.2.3 Delta Protection Act of 1992

The Delta Protection Act is described in Section 1.0, Water Resources Regulatory Framework. The Delta Protection Act of 1992 created the DPC and declared that a primary goal of the State for the Delta is, among other findings, to improve flood protection by structural and nonstructural means to ensure an increased level of public health and safety. Section 29704 of the Delta Protection Act focuses on the Delta levee system. The section recognizes that some of the Delta islands are flood-prone, and that improvement and ongoing maintenance of the levee system is very important to protect farmlands, population centers, the State's water quality, and significant natural resource and habitat areas of the Delta. Section 29704 also notes that most of the existing levee systems are degraded and in need of restoration, improvement, and continuing management.

Other sections include goals pertaining to the quality of the Delta environment (agriculture, wildlife habitat, and recreational activities) and the balanced conservation and development of Delta land resources.

### 3.2.4 State Realty Disclosure Law

California law (Government Code [Gov. Code] section 8589.3) requires the seller (if acting without an agent) or the seller's agent to disclose to a prospective transferee of real property if the property is located within an SFHA (any type Zone "A" or "V") as designated by FEMA pursuant to 42 USC section 4001. Disclosure must be made if:

- a seller (if acting without an agent) or the seller's agent has "actual knowledge" (Public Resources Code section 2621.9(c)(1)) that the property is located within a SFHA, OR
- the local jurisdiction has compiled a list of properties (identified by parcel) that are within an SFHA and a notice has been posted at the offices of the county recorder, county assessor, and county planning agency that identifies the location of the parcel list.

## 3.3 Local Regulatory Framework

Local and regional flood management is provided through reclamation districts, individual cities and counties, and regional agencies composed of a combination of the former three, and created through a Joint Exercise of Powers Agreement. The various entities responsible for local and regional flood management in the Delta are described in the following subsections.

### 3.3.1 Local and Regional Reclamation Districts and Maintenance Areas

Reclamation districts are special districts organized under the authorizations granted by State law. The mission and purpose of reclamation districts are to operate and maintain the levees surrounding the reclamation district and to operate and maintain the internal drainage system to remove agricultural and urban runoff (Reclamation District 1000 2010). Reclamation districts commonly maintain a large network of agricultural drains and pumps and are responsible for interior drainage of many Delta islands.

Reclamation districts are primarily locally funded agencies responsible for the operation and maintenance of levee systems. Reclamation districts are allowed to use any of the following financing tools to raise funds:

- Special assessments based on the specific benefit each parcel receives from the improvements
- Fees or charges, including minimum and standby charges, for services provided
- User fees for the irrigation services provided to property owners

The reclamation districts also may issue bonds to finance improvements (Wat. Code Web Site 2009).

Of the 1,115 miles of levees in the Delta, 730 miles are non-project levees. These levees are not part of the federal flood control program and are maintained by local agencies, primarily reclamation districts, that are partially reimbursed by DWR under the Delta Levee Subventions Program established in 1973. The Delta Flood Protection Act of 1988 significantly increased reimbursement opportunities, but also added a major environmental mandate to ensure no net long-term loss of habitat.

As noted above, these local districts receive local tax funding to pay for levee maintenance. Standard practices used for maintaining the levees differ between districts and agencies, as does the amount of funding provided to perform these activities. Improvement and maintenance of these levees are challenging because of poor foundations and regulations to protect levee wildlife habitat (DWR 1995).

### *3.3.2 Cities and Counties*

The six counties that have lands within the Delta, as well as cities and special districts, are engaged in activities to reduce the risk of flooding. Activities may include construction, operation, and maintenance of structural features such as levees, and nonstructural activities. Nonstructural activities are also carried out to reduce property damage and loss of life, and minimize economic impact in the event of a flood. These include floodplain zoning, enforcement of building restrictions in FEMA-designated regulatory floodplains, flood warning and evacuation plans, and flood proofing and relocation assistance.

### *3.3.3 Regional Flood Control Agencies*

The Sacramento Area Flood Control Agency (SAFCA) is a regional agency charged with flood risk reduction to the City of Sacramento, other portions of Sacramento County, and portions of Sutter County. It was created through a Joint Exercise of Powers Agreement between the City of Sacramento, the County of Sacramento, the County of Sutter, the American River Flood Control District and Reclamation District 1000. SAFCA's flood-control system features include levees along the Sacramento River that protect Natomas and Sacramento, levees on the American River in Sacramento, and levees and floodwalls along the South Sacramento County Streams Group. SAFCA partners with the CVFPB and the USACE on flood protection projects. SAFCA is partnering on the American River Common Features Project, which is strengthening levees on the American and Sacramento rivers to reduce flood risk to Sacramento. SAFCA is also partnering with the State and the USACE on construction of an auxiliary spillway at Folsom Dam (SAFCA 2009).

The San Joaquin Area Flood Control Agency is a Joint Powers Authority that was created in May 1995 between the City of Stockton, San Joaquin County, and the San Joaquin County Flood Control and Water Conservation District. The San Joaquin Area Flood Control Agency is responsible for flood protection for the City of Stockton and San Joaquin County. In 1998, it completed the Flood Protection Restoration Project, which consisted of improvements to levees, floodwalls, and channels that removed most of the City of Stockton from the FEMA 100-year flood zone (USACE 2008).

The West Sacramento Area Flood Control Agency (WSAFCA) is a JPA created in 1994 through a Joint Exercise of Powers Agreement by the City of West Sacramento, reclamation district 900, and reclamation district 537. WSAFCA was established to coordinate the planning and construction of flood protection facilities within the boundaries of the JPA and to help finance the local share of flood control projects. WSAFCA formed an assessment district in 1995 to fund the local cost share of these repairs and projects.

## 3.4 Current Delta Levee Funding Programs

As described in previous sections, some aging Delta levees are in need of maintenance and repair to ensure the long-term protection of islands they surround, which contain homes, farmlands, and businesses. The Delta levee system is also a vital part of California's water infrastructure and its improvement and maintenance is a top priority for the State. Funding for Delta levees has become a major issue since the sudden and unpredicted collapse of the Jones Tract levee in 2004. Several voter-approved

bonds and other legislation have been passed to provide for funding to maintain and repair the Delta levee system.

### 3.4.1 USACE Delta Levee Funding

The Water Supply, Reliability, and Environmental Improvement Act of 2004 (Public Law 108-361) authorizes the USACE to design and construct levee stability projects for purposes such as flood damage reduction, ecosystem restoration, water supply, water conveyance, and water quality objectives as outlined in the CALFED Bay-Delta Program, Programmatic ROD. Furthermore, section 103(f)(3)(B) of this Act authorizes the USACE to undertake the eight following activities:

- Reconstruct Delta levees to a base level of protection (also known as the ‘‘Public Law 84–99 standard”)
- Enhance the stability of levees that have particular importance in the system through the Delta Levee Special Improvement Projects Program
- Develop best management practices to control and reverse land subsidence on Delta islands
- Develop a Delta Levee Emergency Management and Response Plan that will enhance the ability of federal, State, and local agencies to rapidly respond to levee emergencies
- Develop a Delta Risk Management Strategy after assessing the consequences of Delta levee failure from floods, seepage, subsidence, and earthquakes
- Reconstruct Delta levees using, to the maximum extent practicable, dredged materials from the Sacramento River, the San Joaquin River, and the San Francisco Bay
- Coordinate Delta levee projects with flood management, ecosystem restoration, and levee protection projects of the lower San Joaquin River and lower Mokelumne River floodway improvements and other projects under the Sacramento-San Joaquin Comprehensive Study
- Evaluate and, if appropriate, rehabilitate the Suisun Marsh levees

The Act directed the USACE to identify and prioritize levee stability projects that could be carried out with federal funds. An initial amount of $90 million was authorized, with another $106 million authorized in the 2007 Water Resources Development Act of 2007 (WRDA). The USACE initially solicited proposals for various levee improvement projects and received 68 project proposals totaling more than $1 billion. In the short-term, the USACE plans to proceed with implementation of high-priority improvements that can be constructed with the limited funds appropriated to date. The following funding has been received in the last 3 fiscal years:

- Fiscal year 2008: $4.9 million
- Fiscal year 2009: $4.8 million
- Fiscal year 2010: $4.8 million

The USACE also is proceeding with a Delta Islands and Levees Feasibility Study to develop long-term plans for flood-risk management, water quality, water supply, and ecosystem restoration. In addition, the USACE is working on a Lower San Joaquin Feasibility Study to determine whether there is a federal interest in providing flood risk management and ecosystem restoration on the lower San Joaquin River.

The WRDA amended the authority granted to the USACE under PL 108-361. The USACE issued guidance for the implementation of the supplemental authority granted under section 3015 of WRDA. This guidance was issued through a CECW-PB Memorandum dated 11 August 2008 titled, “Implementation Guidance for the Water Resources Development Act of 2007 (WRDA 2007) – Section 3015, CALFED Levee Stability.”

In support of Activity No. 4 described above, the USACE signed a Memorandum of Agreement with DWR to initiate the Geographic Information System Flood Contingency Mapping and Phase 1 of an Emergency Response Plan for the Delta region. Based on coordination with the reclamation districts, counties, and State agencies, a draft report for Phase 1 is expected to be published in summer 2011. The flood contingency maps produced as part of Phase 1 will be developed in a style comparable to the maps already produced by San Joaquin County.

### 3.4.2 CALFED Bay-Delta Program Levee System Integrity Program

The CALFED Bay-Delta Program's Levee System Integrity Program provides maintenance and improvement work to the Delta levee system. Goals and objectives of the program include:

- Base Level Protection – This program provides funding to help local reclamation districts reconstruct Delta levees to a base level of protection (Public Law 84-99).
- Special Improvement Projects – This program is intended to enhance levee stability for levees providing major benefits. Priorities include protection of life, personal property, water quality, the Delta ecosystem, and agricultural production. Funding under this program is granted through an application process and a Project Solicitation Package with projects recommended for funding that meet certain selection criteria. However, funding limitations may occur in certain years and not all recommended projects may be funded.
- Suisun Marsh Protection and Ecosystem Enhancement – This program provides levee integrity, ecosystem restoration, and water quality benefits by supporting maintenance and improvement of the levee system in the Suisun Marsh.
- Levee Emergency Response Plan – This program is intended to enhance agency and local efforts to respond to levee emergencies.

### 3.4.3 State Delta Levees Maintenance Subvention Program

The Delta Levees Maintenance Subvention Program is a State cost-sharing program in which participating local levee maintenance agencies receive funds for the maintenance and rehabilitation of non-project levees in the Delta. The program's goal is "to reduce the risk to land use associated with economic activities, water supply, infrastructure, and ecosystem from catastrophic breaching of Delta levees by building all Delta levees to the Bulletin 192-82 Standard" (DWR 1995). There is a statewide interest in levee maintenance in the Delta because the leveed islands maintain flow velocities in the sloughs and channels that combat saltwater intrusion. The program is authorized in the Wat. Code, sections 12980-12995. In 1988, with the passage of the Delta Flood Protection Act, financial assistance for several communities maintaining local Delta levees was increased through the Delta Levees Subvention Program. The intent of the program is given in Wat. Code article 12981 and states that the key to preserving the Delta physical characteristics is the system of levees defining the waterways and producing the adjacent islands Thus, funds necessary to maintain and improve the Delta's levees to protect the physical characteristics should be used.

The CVFPB is responsible for sponsoring and approving levee repair and enters into agreements with reclamation districts to reimburse eligible levee rehabilitation or maintenance costs. The State will provide reimbursement for up to $20,000 per levee mile for all Delta levee maintenance.

### 3.4.4 Delta Levees Special Flood Projects Program

The Delta Levees Special Flood Control Projects (Special Projects) provides financial assistance to local levee-maintaining agencies for levee rehabilitation in the Delta. The program was established by the California Legislature under SB 34 in 1988. Since the inception of the program, more than $200 million has been provided to local agencies in the Delta for flood control and related habitat projects. For

example, some levees were raised above the 1-percent-annual-chance water surface elevations, such as on Webb Tract, Bouldin Island, Empire Tract, King Island, Ringe Tract, and Canal Ranch ( California Central Valley Flood Control Association 2011).

The Special Projects program is authorized in the Wat. Code sections 12310 through 12318. The intent of the legislation, as stated in the Wat. Code, is to preserve the Delta as much as it currently exists (DWR 2009, p. 2). Beyond Delta levees, section 12311 of the Wat. Code states that the program includes "approximately 12 miles of levees bordering Northern Suisun Bay from Van Sickle Island westerly to Montezuma Slough." The program has traditionally focused on flood control projects and related habitat projects for eight western Delta islands (Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell, and Webb) and for the towns of Thornton and Walnut Grove. Because of recent increases in funding, the program is now being extended to the rest of the Delta, as was authorized by the Legislature in 1996.

### *3.4.5 DWR FloodSAFE California Program*

As described in Section 3.2.1.1, FloodSAFE, the FloodSAFE California goals include:

- Reduce the frequency and size of flooding of communities
- Reduce the consequences of flooding
- Protect and enhance ecosystems (DWR 2008a, p. 18)

State Propositions 1E and 84, with legislative direction, authorized as much as $3.3 billion of state bond funds to the Central Valley and Delta for repairs and improvements to levees and flood projects. The majority of the bond funds that will be directed toward Delta levees are expected to go through the Delta Levees Subventions and Special Projects funds. DWR is also in the early stages of preparing the Central Valley Flood Protection Plan, a strategic plan intended to identify a long-term strategy for flood risk reduction in the Central Valley. The Central Valley Flood Protection Act of 2008 established the requirements for the plan under SB 5. Requirements include updating data on hydrology and existing projects, formulating and evaluating alternatives, and delivering a recommended plan. The scope of the Central Valley Flood Protection Plan includes the facilities of the two State-Federal flood control projects, plus any additional existing flood-management facility that provides significant system-wide flood risk management benefits. This plan is scheduled to be completed by January 1, 2012 (DWR 2008b).

Another FloodSAFE effort that will affect Delta flood management is the Central Valley Floodplain Evaluation and Delineation Program. The objectives of this program are to provide floodplain information for risk identification and public notification, support the Central Valley Flood Protection Plan, provide reliable floodplain information for local decision making, and provide design support for early implementation of flood protection projects. Central Valley Floodplain Evaluation and Delineation Program maps have been developed that represent 100- and 200-year floodplains for urban and urbanizing areas within the Sacramento-San Joaquin Valley watershed. These maps will be further developed based on more detailed hydrologic and hydraulic information, topographic data, and levee evaluations.

Other DWR flood-management activities include statewide flood forecasting, flood operations, and other key flood emergency-response activities. DWR Levee Flood Protection Zone maps have been developed to identify floodplain areas protected by Central Valley State and federal project levees. DWR has also developed advisory floodplain maps known as Best Available Maps. These represent floodplain maps based on FEMA data and the best available local data, and summarize 100- and 200-year floodplain maps for 32 counties and 91 cities in the Sacramento-San Joaquin Valley watershed. The purpose of the maps is to identify potential flood hazards that warrant further study and consideration during land use planning. DWR also produces Awareness Floodplain Maps. These maps display the 100-year flood hazard areas

using approximate assessment procedures. These floodplains will be shown simply as flood-prone areas without specific depths.

# 4.0 Land Use and Planning Regulatory Framework

## 4.1 Federal Regulatory Framework

This section provides the federal regulatory setting for land use resources, including federal plans, policies, and regulations applicable to Delta Plan activities.

### *4.1.1 Coastal Zone Management Act*

Background information on the CZMA is provided in the Water Resources Regulatory Framework. The CZMA outlines two national programs, the National Coastal Zone Management Program and the National Estuarine Research Reserve System. The 34 coastal programs aim to balance competing land and water issues in the coastal zone, while estuarine reserves serve as field laboratories to provide a greater understanding of estuaries and how humans impact them. The overall program objectives of the CZMA remain balanced to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone."

The San Francisco BCDC is designated by the federal government to enforce the CZMA for the San Francisco Bay Area of the California Coastal Zone, including San Pablo Bay and the Suisun Marsh.

### *4.1.2 Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan*

The USFWS prepared the *Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan* to guide management of fish, wildlife, plants, other natural resources, and visitor use on the refuge for the next 15 years (USFWS 2007). The 17,641-acre Stone Lakes National Wildlife Refuge is located in southern Sacramento County, west of the city of Elk Grove. It lies within the Morrison Creek, Cosumnes River, and Mokelumne River watersheds, as well as the Delta.

The refuge conserves and enhances a range of scarce Delta and Central Valley habitats and the fish, wildlife, and plants they support. It sustains freshwater wetlands, wooded riparian corridors, and grasslands that facilitate wildlife movement and compensate for habitat fragmentation. The plan includes a land conservation program that complements other regional efforts and initiatives.

Management efforts expand and diversify habitats for migratory birds and a range of species at risk. It also promotes cooperative farming opportunities and strives to maintain traditional agricultural practices in southwestern Sacramento County that have proven to benefit migratory birds experiencing declines. Through cooperation with other agencies, conservation organizations, neighbors, and other partners, the plan is used to develop and manage wetlands in a manner that reflects historic hydrologic patterns and is consistent with local, State, and federal floodplain management goals and programs.

### *4.1.3 Central Valley Project Improvement Act*

In 1992, Congress passed the CVPIA, which added fish and wildlife protection, restoration, enhancement, and mitigation as project purposes with priority equal to that of existing project purposes of power generation, irrigation, and domestic water uses. The CVPIA requires the Secretary of the Interior, through the Reclamation and USFWS, "to operate the CVP consistent with the purposes of the act, to meet the Federal trust responsibilities to protect the fishery resources of affected federally recognized Indian tribes, and to achieve a reasonable balance among competing demands for the use of CVP water" (Reclamation 2005).

Reclamation and USFWS, in coordination with the State of California, participating CALFED agencies, and other partners, have implemented numerous programs, projects, and actions to meet the goals of the CVPIA, many of which have affected land use throughout the Central Valley, especially in the Delta watershed.

To achieve the CVPIA's purposes and the identified goals and objectives, a large number of provisions were incorporated into the statute related to land use. These include specific programs, measures, and operational and management directives that deal with water management, habitat management, and land management; including directives for retirement of drainage-impaired farm lands through the Agricultural Land Retirement Program, and implementation of an "Agricultural Waterfowl Incentives Program."

### *4.1.4 Uniform Relocation Assistance and Real Property Acquisition Policies Act*

Implementation of the Delta Plan may require that one or more parcels in the Delta, Suisun Marsh, Delta watershed, or areas outside the Delta that use Delta water to be acquired. Federal, State, and local government agencies, and others receiving federal financial assistance for public programs and projects that require the acquisition of real property, must comply with the policies and provisions set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended in 1987 (42 USC section 4601 et seq.), and its implementing regulation, 49 CFR Part 24. Relocation advisory services, moving cost reimbursement, replacement housing, and reimbursement for related expenses and rights of appeal are provided for in the act.

## 4.2 State Regulatory Framework

This section provides the State regulatory setting for land use, including State plans, policies, and regulations applicable to Delta Plan activities.

### *4.2.1 State Planning and Zoning Laws*

California Gov. Code section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. The general plan is a comprehensive, long-term document that describes plans for the physical development of a city or county and of any land outside its boundaries that, in the city's or county's judgment, bears relation to its planning. The general plan addresses a broad range of topics, including, at a minimum, land use, circulation, housing, conservation, open space, noise, and safety. In addressing these topics, the general plan identifies the goals, objectives, policies, principles, standards, and plan proposals that support the city's or county's vision for the area. The general plan is a long-range document that typically addresses the physical character of an area over a 20-year period or longer.

Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow flexibility in the approach taken to achieve the plan's goals. Each city and county in the Delta, Suisun Marsh, Delta watershed, and areas outside the Delta that use Delta water has adopted a general plan.

A specific plan typically implements the general plan in a particular geographic area (California Gov. Code section 65450). Generally, it describes the distribution, location, and extent of planned land uses, associated infrastructure, and development standards. The specific plan must include a statement of its relationship to the general plan (California Gov. Code section 65451(b)). Several specific plans have been adopted in the Delta, including the *Mountain House Specific Plan* and the *Central Lathrop Specific Plan*. In addition, numerous other specific plans have been adopted in the Delta watershed and areas outside the Delta that use Delta water.

The State Zoning Law (California Gov. Code section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses in a specific zone district, are required to be consistent with the general plan and any applicable specific plans. When amendments to the general plan are made,

corresponding changes in the zoning ordinance may be required within a reasonable time to ensure that the land uses designated in a general plan or specific plan would also be allowable by the zoning ordinance (California Gov. Code section 65860(c)). Each city and county in the Delta, Suisun Marsh, Delta watershed, and areas outside the Delta that use Delta water has adopted a zoning ordinance.

#### 4.2.1.1 Cortese-Knox-Hertzberg Local Government Reorganization Act

The local agency formation commission (LAFCO) is charged with applying the policies and provisions of the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (California Gov. Code section 56000 et seq.) to its decisions regarding annexations, incorporations, reorganizations, and other changes in government organization.

LAFCOs are intralocal agencies created by State legislation to ensure that changes in governmental organization occur in a manner that provides efficient and good-quality services and preserves open space land resources. In 1963, the California Legislature established LAFCOs in each county and gave them regulatory authority over local agency boundary changes. In the 1970s, the legislature recognized the connection between decisions concerning governmental organization and the issues of urban sprawl and loss of prime agricultural land. In response to these concerns, LAFCOs were charged with implementing changes in governmental organization in a manner that preserves agricultural and open space land resources, as well as provide for the delivery of services.

The general policies of LAFCOs include encouraging planned, well-ordered, and efficient urban development patterns and guiding development away from open space and prime agricultural lands.
California Community Redevelopment Law

The California Community Redevelopment Law, contained in California Health and Safety Code [Health & Saf. Code] section 33000 et seq., provides the authority and implementation provisions for a redevelopment program. In 1945, in response to urban decay concerns in American cities, the California Community Redevelopment Act was created. It was designed to give cities and counties in California the authority to establish redevelopment agencies, address urban decay, and apply for federal funding. The act was added to the California Health & Safe. Code in 1951 and renamed the Community Redevelopment Law.

### *4.2.2 Delta Protection Act of 1992*

Background information on the Delta Protection Act is provided in Section 1.0, Water Resources Regulatory Framework.

The DPC has planning jurisdiction over portions of five counties: Contra Costa, Sacramento, San Joaquin, Solano, and Yolo counties. It was charged with developing a comprehensive regional plan to guide land use and resource management, including wildlife habitat and recreation. The resulting *Land Use and Resource Management Plan for the Primary Zone of the Delta* was initially adopted by the DPC in February 1995 and updated in November 2010 (DPC 2010). With the adoption of the management plan, all local governments with incorporated areas in the Delta Primary Zone must submit proposed amendments to their general plans to the DPC. The DPC then reviews the proposed amendments to ensure they are consistent with the *Land Use and Resource Management Plan for the Primary Zone of the Delta* with respect to lands located in the Primary Zone of the Delta.

Land uses in the Delta Primary Zone are subject to review by the DPC for consistency with the management plan. The DPC does not have land use authority, but it can suspend local projects under an appeal process while it reviews them for consistency with the Delta Protection Act and the *Land Use and Resource Management Plan for the Primary Zone of the Delta*.

### 4.2.3 Land Use and Resource Management Plan for the Primary Zone of the Delta

As discussed in the previous section, the DPC adopted its *Land Use and Resource Management Plan for the Primary Zone of the Delta* on February 23, 1995. The updated plan was approved by the California Office of Administrative Law on October 7, 2010, and became effective on November 6, 2010. It contains policies to protect the Delta's unique character, expand public access and recreation, and locate new transmission lines and utilities within existing corridors to minimize impacts (DPC 2010).

The plan is composed of seven elements: Land Use, Agriculture, Natural Resources, Recreation and Access, Water, Levees, Utilities and Infrastructure. Goals and policies from the land use and resource management plan related to land use and agriculture applicable to the Delta Plan are listed below (DPC 2010, pp. LU 2–3, AG 2–3).

*Land Use*

- **Policy P-3:** New non-agriculturally oriented residential, recreational, commercial, habitat, restoration, or industrial development shall ensure that appropriate buffer areas are provided by those proposing new development to prevent conflicts between any proposed use and existing adjacent agricultural parcels. Buffers shall adequately protect integrity of land for existing and future agricultural uses and shall not include uses that conflict with agricultural operations on adjacent agricultural lands. Appropriate buffer setbacks shall be determined in consultation with local Agricultural Commissioners, and shall be based on applicable general plan policies and criteria included in Right-to-Farm Ordinances adopted by local jurisdictions.

- **Policy P-8:** Local government policies regarding mitigation of adverse environmental impacts under the California Environmental Quality Act may allow mitigation beyond county boundaries, if acceptable to reviewing fish and wildlife agencies and with approval of the recipient jurisdiction, for example in approved mitigation banks or in the case of agricultural loss to mitigation. Mitigation in the Primary Zone for loss of agricultural lands in the Secondary Zone may be appropriate if the mitigation program supports continued farming in the Primary Zone. California Government Code Section 51256.3 (Assembly Bill 797) specifically allows an agricultural conservation easement located within the Primary or Secondary Zone of the Delta to be related to Williamson Act contract rescissions in any other portion of the secondary zone without respect to County boundary limitations.

### 4.2.4 McAteer-Petris Act

The McAteer-Petris Act gives the BCDC jurisdiction over certain types of development in the San Francisco Bay area, portions of Suisun Marsh, and limited other areas within the region. For a detailed description, see Section 4 of this EIR, Biological Resources.

### 4.2.5 Suisun Marsh Protection Plan

Background information for the *Suisun Marsh Protection Plan* is provided in Section 1.0, Water Resources Regulatory Framework. The objectives of the protection plan are to preserve and enhance the quality and diversity of the Suisun Marsh aquatic and wildlife habitats and to ensure retention of upland areas adjacent to the marsh in uses compatible with its protection. The protection plan includes (1) a primary management area encompassing the 89,000 acres of tidal marsh, managed wetlands, adjacent grasslands, and waterways over most of which the BCDC has jurisdiction; and (2) a secondary management area of approximately 22,500 acres of buffer lands. Under specific guidelines in each area, Solano County is responsible for preparing and administering a local protection program (see Section 1.3, Local Regulatory Framework). BCDC would represent the State's interest, serving as the land use permitting agency for major projects in the primary management area and as an appellate body with limited functions in the secondary management area (BCDC 2007).

All public and private management and development activities within the primary and secondary management areas of the Suisun Marsh must be consistent with the policies and provisions of the *Suisun Marsh Protection Plan* as adopted by the BCDC. The protection plan is a more specific application of the policies of the San Francisco Bay Plan because of the unique characteristics of the Suisun Marsh. The policies of both the Bay Plan and the Protection Plan apply in the marsh in the absence of a certified Suisun Marsh Local Protection Program component. If a policy conflict arises between the Bay Plan and the Protection Plan, the policies of the Protection Plan take precedence.

Land use and marsh management findings and policies identify objectives for managing existing land uses and land and water areas, including preserving and enhancing marsh habitat; providing habitat attractive to waterfowl; improving water distribution and levee systems; encouraging agricultural and grazing practices consistent with wildlife use, waterfowl hunting, and elimination of mosquito breeding; and restoring historic wetlands. The following policies from the *Suisun Marsh Protection Plan* support the agricultural values of the Delta:

- **Policy 1:** The managed wetlands, tidal marshes, lowland grasslands, and seasonal marshes should be included in a primary management area. Within the primary management area, existing uses should continue and both land and water areas should be protected and managed to enhance the quality and diversity of the habitats.

- **Policy 2:** Agriculture within the primary management area should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities, involving removal or persistent plowing of natural vegetation and maintenance of fallow land during part of the year, should not be permitted. Grain production should be confined to the Grizzly Island Wildlife Area and relatively small, well-suited areas of some of the large duck clubs. Grazing should be used to control vegetation on duck clubs where plant cover is sub-optimum for waterfowl use and should be discouraged on those clubs where there is already a good mixture of preferred waterfowl food plants. Grazing pressures should not exceed sound range management practices.

- **Policy 10:** Agricultural uses consistent with protection of the Marsh, such as grazing and grain production, should be maintained in the secondary management area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted. The value of the upland grassland and cultivated lands as habitats for Marsh-related wildlife should be maintained and enhanced where possible by planting or encouraging valuable wildlife food or cover plant species.

### *4.2.6 Suisun Marsh Local Protection Program*

Under the Suisun Marsh Protection Act, agencies having jurisdiction in the Suisun Marsh were required to bring their policies, regulations, and programs into conformity with the provisions of the Suisun Marsh Protection Act and the *Suisun Marsh Protection Plan* through the preparation of a local protection program. The Suisun Marsh Local Protection Program consists of portions of the general and specific plans, ordinances and regulations, policies and zoning, and operating procedures of the cities of Fairfield and Suisun City, Solano County, the Suisun Resource Conservation District and Solano County Mosquito Abatement District, and the Solano County Local Agency Formation Commission.

### *4.2.7 Regional Housing Needs Allocation*

The California Housing and Community Development allocates the regional share of statewide housing needs to the regional Council of Governments (including Sacramento Area Council of Governments [SACOG] for Sacramento and Yolo counties, Association of Bay Area Governments for Solano and Contra Costa counties, San Joaquin Council of Governments for San Joaquin County, and for Yolo

County) based on the Department of Finance population projections and regional population forecasts used in preparing regional transportation plans. The Council of Governments develops a Regional Housing Need Plan to allocate the regional housing allocation to cities and counties in the region. This allocation process is completed in accordance with Gov. Code section 65583(a)(1) to promote the following objectives:

- increase the housing supply and the mix of housing types, tenure and affordability in all cities and counties within the region in an equitable manner;
- promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns; and
- promote an improved intraregional relationship between jobs and housing (Department of Housing and Community Development 2011).

# 5.0 Agriculture and Forestry Resources Regulatory Framework

This section provides an overview of the local, State, and Federal plans, policies, and regulations relating to agricultural resources within the study area.

## 5.1 Federal Regulatory Framework

This section provides the federal regulatory setting for agricultural and forestry product resources, including federal plans, policies, and regulations applicable to Delta Plan activities.

### *5.1.1 Farmland Protection Policy Act*

NRCS is the agency primarily responsible for implementing the federal Farmland Protection Policy Act (FPPA). The purpose of the FPPA is to minimize federal contributions to the conversion of farmland to nonagricultural uses by ensuring that federal programs are administered in a manner compatible with State government, local government, and private programs designed to protect farmland.

NRCS administers the FPPA through a voluntary program that provides funds to help purchase development rights to keep productive farmland in agricultural use. The program provides matching funds to State, local, or Tribal government entities and nongovernmental organizations with existing farmland protection programs to purchase conservation easements. Participating landowners agree not to convert the land to nonagricultural uses and retain all rights to the property for future agriculture. A minimum 30-year term is required for conservation easements, and priority is given to applications with perpetual easements (NRCS 2009a).

The FPPA established the Farmland Protection Program and the Land Evaluation and Site Assessment system. The system is a tool used to rank lands for suitability and inclusion in the Farmland Protection Program. The land evaluation involves rating soils and placing them into groups ranging from the best to the least suited for a specific agricultural use, such as for cropland, forestland, or rangeland. The site assessment involves three major areas: non-soil factors related to agricultural use of a site, factors related to development pressures, and other public values of a site. Each factor selected is assigned a range of possible values according to local needs and objectives (NRCS 2009b).

### *5.1.2 Central Valley Project Improvement Act*

The Central Valley Project Improvement Act is discussed in Section 1.0, Water Resources Regulatory Framework. The Reclamation and the USFWS, in coordination with the State of California, participating

CALFED agencies, and other partners, have implemented numerous programs, projects, and actions to meet the goals of the CVPIA, many of which have affected land use and agriculture throughout the Central Valley, especially in the Delta watershed.

To achieve the CVPIA's purposes and the identified goals and objectives, a large number of provisions were incorporated into the statute related to agriculture. These include specific programs, measures, and operational and management directives that deal with water management, habitat management, and land management; including directives for retirement of drainage-impaired farm lands through the Agricultural Land Retirement Program and implementation of an "Agricultural Waterfowl Incentives Program." In the Agricultural Waterfowl Incentives Program, farmers are paid to keep private agricultural fields flooded during the winter months when it would result in greater amounts of habitat and increased food availability for waterfowl. This program has been enrolling lands for participation since fiscal year 1997. The Agricultural Land Retirement Program has acquired over 1,200 acres of farmland in the Delta and approximately 8,700 acres of irrigated agricultural land in the San Joaquin Valley.

### *5.1.3 Uniform Relocation Assistance and Real Property Acquisition Policies Act*

Federal, State, and local government agencies, as well as others receiving federal financial assistance for public programs and projects that require the acquisition of real property, must comply with the policies and provisions set forth in the Uniform Relocation Assistance and Real Property Acquisition Policies Act. The act is discussed in Section 4.0, Land Use and Planning Regulatory Framework.

## 5.2 State Regulatory Framework

This section provides the State regulatory setting for agricultural/forestry product resources, including State plans, policies, and regulations applicable to Delta Plan activities.

### *5.2.1 State Planning and Zoning Laws*

California Gov. Code section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. Although the general plan serves as a blueprint for future development and identifies the overall vision for the planning area, it remains general enough to allow flexibility in the approach taken to achieve the plan's goals. Each city and county in the Delta, Suisun Marsh, Delta watershed, and areas outside the Delta that use Delta water has adopted a general plan.

#### 5.2.1.1 California Important Farmland Inventory System and Farmland Mapping and Monitoring Program

The Farmland Mapping and Monitoring Program (FMMP) was established by the State of California in 1982 to continue the Important Farmland mapping efforts begun in 1975 by the U.S. Soil Conservation Service (now U.S. Natural Resources Conservation Service [NRCS]). The intent of the Soil Conservation Service was to produce agricultural-resource maps based on soil quality and land use across the nation. California Department of Conservation sponsors the FMMP and is also responsible for establishing agricultural easements in accordance with Pub. Resources Code sections 10250 to 10255.

As part of the nationwide effort to map agricultural land uses, NRCS uses a series of definitions known as Land Inventory and Monitoring (LIM) criteria. The LIM criteria classify the land's suitability for agricultural production. Suitability relates to the physical and chemical characteristics of soils, as well as the actual land use. Maps of Important Farmland are derived from the NRCS soil survey maps using the LIM criteria and are available by county. The maps prepared by NRCS classify land into one of eight categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Other Lands, Urban and Built Up, and Water. Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are collectively termed "agricultural land" in CEQA (California Pub. Resources Code sections 21060.1 and 21095) and include the following land:

- Prime Farmland—Land that has the best combination of features for producing agricultural crops. Prime Farmland must have been used for production of irrigated crops at some time during the 4 years prior to the FMMP's mapping date.

- Farmland of Statewide Importance—Land, other than Prime Farmland, with a good combination of physical and chemical characteristics for producing crops. Farmland of Statewide Importance must have been used for production of irrigated crops at some time during the 4 years prior to the mapping date.

- Unique Farmland—Land that has been used to produce specific crops with high economic value but does not meet the criteria for Prime Farmland or Farmland of Statewide Importance. These lands usually are irrigated, but they may include nonirrigated orchards or vineyards found in some climatic zones. Unique Farmland must have been used for crops at some time during the 4 years prior to the mapping date.

In addition, FMMP provides information on other farmland and developed areas as a means to track conversion of farmland resources over the long term. As discussed in Section 7 of this EIR, Agriculture and Forestry Resources, these include the following lands:

- Farmland of Local Importance—Land that is either currently producing crops, has the capability to produce crops, or is used to produce confined livestock, other than Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. It includes farmland of potential local importance.

- Grazing Land—Land on which existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing by livestock.

- Other Lands—Land that is not included in any of the other mapping categories and generally includes land in rural residential development; lands not suitable for livestock grazing; government lands; rights-of-way outside of urban and built-up areas; facilities for confined livestock or aquaculture; mines, borrow pits, or gravel pits; water bodies smaller than 40 acres; or other rural land uses not suitable for agricultural operations.

- Urban and Built-Up Lands—Land occupied by structures with a density of at least one dwelling unit per 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public utility structures, and other developed purposes.

#### 5.2.1.2 California Land Conservation Act of 1965 (Williamson Act)

The California Land Conservation Act of 1965, commonly known as the Williamson Act (California Gov. Code section 51200 et seq.), enables local governments to enter into contracts with private landowners to promote the continued use of the relevant land in agricultural or related open space use. In return, landowners receive property tax assessments that are based on farming and open space uses instead of full market value. Local governments receive an annual subvention (subsidy) of forgone property tax revenues from the State via the Open Space Subvention Act of 1971. State payments were significantly reduced several years ago and were halted when the State stopped subvention in the 2009-2010 fiscal year because of the State's budget problems.

The Williamson Act empowers local governments to establish "agricultural preserves" consisting of lands devoted to agricultural uses and other compatible uses. Upon establishment of such preserves, the locality may offer to owners of included agricultural land the opportunity to enter into annually renewable contracts that restrict the land to agricultural use for at least 10 years (i.e., the contract continues to run for 10 years following the first date upon which the contract is not renewed). In return, the landowner is guaranteed a relatively stable tax rate, based on the value of the land for agricultural/open space use only

and unaffected by its development potential. There are financial consequences to the landowner for early cancellation of a Williamson Act contract, and cancellations must go through a rigorous approval process. Currently, approximately 357,567 acres of agricultural land are under a Williamson Act contract in the Delta and Suisun Marsh; approximately 5,374,168 acres of agricultural land are under a Williamson Act contract in the Delta watershed; and approximately 5,205,697 acres of agricultural land are under a Williamson Act contract in the areas outside the Delta that use Delta water.

Amendments to the Williamson Act created the opportunity to create Farmland Security Zones (FSZ). An FSZ is an area created in an agricultural preserve by a county board of supervisors upon request by a landowner or group of landowners. It is an enforceable contract between a private landowner and a county that restricts land to agricultural or open space uses. The minimum initial term is 20 years. Like a Williamson Act contract, FSZ contracts self-renew annually; thus, unless either party files a notice of nonrenewal, the contract is automatically renewed each year for an additional year. FSZs offer landowners greater property tax reduction. Land restricted by an FSZ contract is valued for property assessment purposes at 65 percent of its Williamson Act valuation or 65 percent of its Proposition 13 valuation, whichever is lower. Based on data from 2009, approximately 30,947 acres of agricultural land are located in an FSZ in the Delta and Suisun Marsh; 265,866 acres of agricultural land are located in an FSZ in the Delta watershed; and 494,594 acres of agricultural land are located in an FSZ in the areas outside the Delta that use Delta water.

## *5.2.2 Other State Regulations for the Delta and Suisun Marsh*

### 5.2.2.1 Delta Protection Act of 1992

The Delta Protection Act is detailed in Section 1.0, Water Resources Regulatory Framework. Land uses in the Delta Primary Zone are subject to review by the DPC for consistency with the management plan. The DPC does not have land use authority, but it can suspend local projects under an appeal process while it reviews them for consistency with the Delta Protection Act and the *Land Use and Resource Management Plan for the Primary Zone of the Delta*.

### 5.2.2.2 Land Use and Resource Management Plan for the Primary Zone of the Delta

As discussed in the previous section and in Section 4.0, Land Use Regulatory Framework, the DPC adopted its *Land Use and Resource Management Plan for the Primary Zone of the Delta* in 1995 and the updated plan became effective on November 6, 2010. The following policies from the land use and resource management plan support the agricultural values of the Delta Plan (DPC 2010, pp. LU 2–3, AG 2–3):

*Agriculture*

- **Policy P-2:** Conversion of land to non-agriculturally-oriented uses should occur first where productivity and agricultural values are lowest.

- **Policy P-6:** Encourage acquisition of agricultural conservation easements from willing sellers as mitigation for projects within each county. Promote use of environmental mitigation in agricultural areas only when it is consistent and compatible with ongoing agricultural operations and when developed in appropriate locations designated on a countywide or Deltawide habitat management plan.

### 5.2.2.3 Suisun Marsh Protection Plan

Land use and marsh management findings and policies of the *Suisun Marsh Protection Plan* identify objectives for managing existing land uses and land and water areas, including preserving and enhancing marsh habitat; providing habitat attractive to waterfowl; improving water distribution and levee systems; encouraging agricultural and grazing practices consistent with wildlife use, waterfowl hunting, and

elimination of mosquito breeding; and restoring historic wetlands. The following policies from the plan support the agricultural values of the Delta:

- Policy 2: Agriculture within the primary management area should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities, involving removal or persistent plowing of natural vegetation and maintenance of fallow land during part of the year, should not be permitted. Grain production should be confined to the Grizzly Island Wildlife Area and relatively small, well-suited areas of some of the large duck clubs. Grazing should be used to control vegetation on duck clubs where plant cover is sub-optimum for waterfowl use and should be discouraged on those clubs where there is already a good mixture of preferred waterfowl food plants. Grazing pressures should not exceed sound range management practices.
- Policy 10: Agricultural uses consistent with protection of the Marsh, such as grazing and grain production, should be maintained in the secondary management area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted. The value of the upland grassland and cultivated lands as habitats for Marsh-related wildlife should be maintained and enhanced where possible by planting or encouraging valuable wildlife food or cover plant species.

#### 5.2.2.4 Cosumnes River Preserve Management Plan

The *Sierra Resource Management Plan* required preparation of a management plan for the Cosumnes River Preserve (BLM 2008, p. 39). The Cosumnes River Preserve Management Plan is described in Section 6 of this EIR, Land Use and Planning.

Agricultural Stewardship Subgoal 1 states, "Agricultural stewardship will continue to serve as an important land-management tool and will be compatible with the Preserve's overall mission and goals." The plan notes the following agricultural resource objectives that support the cultural and recreational values of the Delta (Cosumnes River Preserve 2008, pp. 4-11 to 4-13) and includes actions to achieve each of them:

- Objective 1.1: Balance the Preserve's agricultural land uses with the Preserve's overall mission and goals.
- Objective 1.2: Use traditional and innovative agricultural and grazing techniques to ensure proper ecological functioning of the Preserve's landscapes.
- Objective 1.3: Maintain the Preserve's agricultural capacity by ensuring that existing infrastructure is maintained and that new infrastructure is installed as necessary.

## 5.3 Local Regulatory Framework

### *5.3.1 Delta and Suisun Marsh Plans and Regulations*

This section identifies goals, objectives, and policies related to agricultural resources in adopted local plans of the six counties with territory in the Delta and Suisun Marsh: Sacramento, Yolo, Solano, San Joaquin, Contra Costa, and Alameda. General plan land use designations within the Delta and Suisun Marsh are shown in Figure D-1.

#### 5.3.1.1 Sacramento County

*Sacramento County General Plan*

The *Sacramento County General Plan*, adopted on December 15, 1993, directs growth and development in the unincorporated area through 2010. The existing *Sacramento County General Plan* planning horizon ended in 2010. In 2002, the county initiated the first comprehensive update of its general plan since it was adopted in 1993. Adoption of the updated general plan is anticipated in 2011 (Sacramento County 2011). Portions of the general plan describe strategies to recognize and preserve areas of open space and natural resources.

The Conservation Element addresses resource conservation, including agricultural soils and habitat. The Agricultural Element addresses how the county will support, as well as appropriately regulate, the use of agricultural land. The following policies from these elements support the agricultural values of the Delta (Sacramento County 1993a, pp. 51, 95; Sacramento County 1993b, p. 7).

Conservation Element

- **Policy CO-54:** Direct development away from prime or statewide importance soils or otherwise provide for mitigation that slows the loss of additional farmland conversion to other uses.
- **Policy CO-55:** Projects resulting in the conversion of more than fifty (50) acres of prime or statewide in importance farmland shall be deemed to have a significant environmental effect, as defined by the California Environmental Quality Act (CEQA).
- **Policy CO-142:** Public land shall be maintained to the extent feasible in a manner that avoids conflicts with privately owned lands and agricultural operations.

Agricultural Element

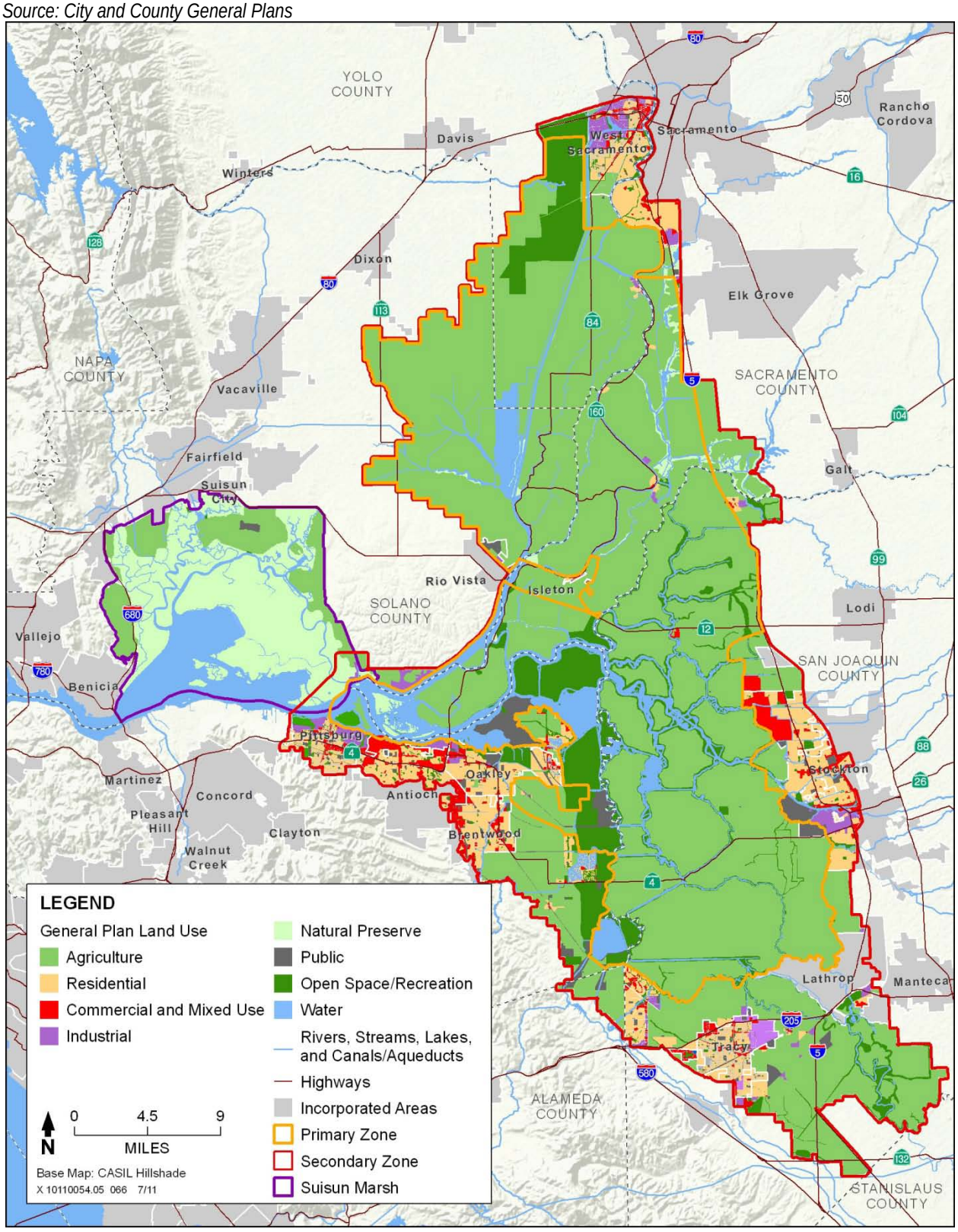
The following policy of the Agricultural Element supports the agricultural values of the Delta:

- **Policy AG-5:** Mitigate loss of prime farmlands or lands with intensive agricultural investments through CEQA requirements to provide in-kind protection of nearby farmland.

Open Space Element

The Open Space Element addresses preservation of natural resources over an extensive area of the southern half of the county that is designated for open space uses. Natural resources discussed in the Open Space Element include terrestrial and aquatic habitats and agricultural areas (Sacramento County 1993c, pp. 1-4).

2324 Figure D-1
2325 General Plan Land Use Designations Within the Delta and Suisun Marsh
2326 *Source: City and County General Plans*

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### *City of Isleton General Plan*

The *City of Isleton General Plan* was adopted in 1999. The entire city is located within the Secondary Zone of the Delta. The Resource Management Element of the general plan seeks to preserve productive agricultural lands and includes the following policy that supports the agricultural values of the Delta (City of Isleton 1999, p. V-3):

- **Open Space for Managed Resource Production, Policy 1:** To avoid the premature conversion of agricultural lands both within and outside of the City limits, residential, open space, and industrial "Reserves" have been designated in the General Plan to be withheld (generally) from urban development until after the year 2010.

### *City of Sacramento General Plan*

The Sacramento City Council adopted the *Sacramento 2030 General Plan* on March 3, 2009 (City of Sacramento 2009). The Environmental Resources Element addresses water resources, biological species and habitat, urban forests, agricultural land, mineral resources, air, and aesthetic resources. The following policies support the agricultural values of the Delta (City of Sacramento 2009, pp. 2-307, 2-316):

- **Policy ER 2.1.2, Conservation of Open Space:** The City shall continue to preserve, protect, and provide access to designated open space areas along the American and Sacramento rivers, floodways, and undevelopable floodplains.

- **Policy ER 4.2.1, Protect Agricultural Lands:** The City shall encourage infill development and compact new development within the existing urban areas of the city in order to minimize the pressure for premature conversion of productive agricultural lands for urban uses.

### Sphere of Influence

A portion of the City of Sacramento Sphere of Influence located south of the *South Area Community Plan* area and Delta Shores extends into the Secondary Zone. This area (296 acres) is designated in the *Sacramento County General Plan* as agriculture or cropland and includes a portion of the Sacramento Regional Wastewater Treatment Plant.

### *City of Elk Grove General Plan*

The *City of Elk Grove General Plan* was adopted in 2003. The general plan is a broad framework for planning the future of the city.

The Conservation and Air Quality Element of the general plan addresses land for future development, agricultural lands and soils, and natural habitats. The City of Elk Grove adopted a right-to-farm ordinance during incorporation to ensure that agricultural operations afforded protection to continue operations and to do so without complaints from nearby residents. It recognized that residents that choose to reside adjacent to agricultural operations must accept any farming-related inconveniences. The following policies support the agricultural values of the Delta (City of Elk Grove 2003, p. 47):

- **Conservation Policy CAQ-3:** The City of Elk Grove considers the only mitigation for the loss of agricultural land to consist of the creation of new agricultural land in the Sacramento region equal in area, productivity, and other characteristics to the area that would be lost due to development. The protection of existing agricultural land through the purchase of fee title or easements is not considered by the City to provide mitigation, since programs of this type result in a net loss of farmland.

- **Conservation Policy CAQ-4:** While agricultural uses are anticipated to be phased out within the city limits, the City recognizes the right of these uses to continue as long as individual

owners/farmers desire. The City shall not require buffers between farmland and urban uses, relying instead on the following actions to address the impacts of farming on urban uses:

- **CAQ-4-Action 1:** Implement the City's "Right to Farm" ordinance.
- **CAQ-4-Action 2:** Prospective buyers of property adjacent to agricultural land shall be notified through the title report that they could be subject to inconvenience or discomfort resulting from accepted farming activities as per provisions of the City's right-to-farm ordinance.

#### 5.3.1.2 Yolo County

*Yolo County General Plan*

The *Yolo County General Plan* was adopted on November 10, 2009, and provides for growth and development in the unincorporated area through 2030. The Agriculture and Economic Development Element seeks to support, sustain, reinvent, and diversify the county's agricultural economy. The Conservation and Open Space Element directs the management of the county's multiple natural and cultural resources, seeks to establish a connected and accessible open space system with communities separated by agriculture and natural spaces linked by a network of trails, and encourages open spaces that complement other land areas in a way that benefits both natural resources and the community. These elements of the general plan identify the following policies that support the agricultural values of the Delta (Yolo County 2009, pp. LU 18–24, AG 22–31, CO-15):

Land Use and Community Character Element

- **Policy LU-2.3:** Prohibit the division of land in an agricultural area if the division is for non-agricultural purposes and/or if the result of the division will be parcels that are infeasible for farming. Projects related to clustering and/or transfers of development rights are considered to be compatible with agriculture.
- **Policy LU-4.1:** Recognize the unique land use constraints and interests of the Delta area.

Agriculture and Economic Development Element

- **Policy AG-1.3:** Prohibit the division of agricultural land for non-agricultural uses.
- **Policy AG-1.4:** Prohibit land use activities that are not compatible within agriculturally designated areas.
- **Policy AG-1.5:** Strongly discourage the conversion of agricultural land for other uses. No lands shall be considered for redesignation from Agricultural or Open Space to another land use designation unless all of the following findings can be made:

  A. There is a public need or net community benefit derived from the conversion of the land that outweighs the need to protect the land for long-term agricultural use.

  B. There are no feasible alternative locations for the proposed project that are either designated for non-agricultural land uses or are less productive agricultural lands.

  C. The use would not have a significant adverse effect on existing or potential agricultural activities on surrounding lands designated Agriculture.

- **Policy AG-1.6**: Continue to mitigate at a ratio of no less than 1:1 the conversion of farm land and/or the conversion of land designated or zoned for agriculture, to other uses.
- **Policy AG-2.9:** Support the use of effective mechanisms to protect farmers potentially impacted by adjoining habitat enhancement programs, such as "safe harbor" programs and providing buffers within the habitat area.

- **Policy AG-2.10:** Encourage habitat protection and management that does not preclude or unreasonably restrict on-site agricultural production.
- **Policy AG-6.1:** Continue to promote agriculture as the primary land use in the portion of Yolo County that lies within the Primary Zone of the Sacramento–San Joaquin Delta.
- **Policy AG-6.3:** Within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable agricultural policies of the Land Use and Resource Management Plan of the Delta Protection Commission.

Conservation and Open Space Element

- **Policy CO-1.17:** Out-of-county mitigation easements in Yolo County for the loss of open space, agriculture, or habitat in other jurisdictions, and flood easements in Yolo County are not acceptable unless the project meets all of the following criteria:
  - Prior notification to Yolo County;
  - Consistency with the goals and policies of the Yolo County General Plan, particularly as related to planned growth, infrastructure, and agricultural districts;
  - Secured water rights and infrastructure to economically maintain the proposed mitigation use;
  - Requirements that existing agricultural operations continue to be farmed for commercial gain;
  - Prohibitions on residential use;
  - Mandatory wildlife-friendly strategies and practices;
  - Compensation to Yolo County for all lost direct and indirect revenue; and
  - Accommodation of recreational uses, such as hunting, fishing, bird watching, hiking, etc.

Where proposed easements meet the above criteria, no further approval is needed. Where one or more criteria are not met, discretionary approval is required.

*City of West Sacramento General Plan*

The *City of West Sacramento General Plan Policy Document* (City of West Sacramento 1990) was initially adopted on May 3, 1990, and a revised version was adopted on December 8, 2004. The City of West Sacramento is currently updating its general plan. It is anticipated that the updated general plan will be adopted in late 2011.The Natural Resources Element identifies the following policy addressing agricultural preservation (City of West Sacramento 1990, p. II-67):

- **Goal B, Policy 2:** The City shall endeavor to ensure, in approving urban development near existing agricultural lands, that such development will not constrain agricultural practices or adversely affect the economic viability of nearby agricultural operations.

*Lower Yolo Bypass Planning Forum*

The Yolo Basin Foundation and the DPC formed the Lower Yolo Bypass Planning Forum. The purpose of the forum is to discuss the future of the bypass and to prepare consensus guidance and recommendations for the management of the lower Yolo Bypass. The forum has developed recommended management actions to achieve the following goals, which support the agricultural values of the Delta (Yolo Bypass Planning Forum 2010):

- **Goal 2: Agricultural Operations.** Maintain or improve land and water management practices (including water operations) that support production agriculture/grazing in and adjacent to the

Yolo Bypass. Recognize and protect important flood capacity and conveyance benefits; and wildlife population and habitat benefits provided by agriculture in the Yolo Bypass. Complement or at a minimum, have a neutral impact on agricultural operations within and adjacent to the Yolo Bypass.

- **Goal 4: Existing Easements and Management Plans**. Recognize and uphold all existing land management plans, agreements, and covenants that have been entered into by public and private Yolo Bypass landowners. Complement or at a minimum, have a neutral impact on existing habitat/conservation, agricultural, flowage, vegetation management, minerals management easements, agricultural leases, and agricultural and land management plans within the Yolo Bypass.

#### 5.3.1.3 Solano County

*Solano County General Plan*

The *Solano County General Plan* was adopted on August 5, 2008. The Agriculture Chapter and Resources Chapter of the general plan address conservation of agricultural land. Certain policies apply to all lands in the county that are designated "Agriculture" on the land use diagram. Agricultural studies conducted in the county resulted in identification of several broad geographic regions that have similar characteristics. Additional policies are identified in the Agriculture Element that apply to specific regions, including the Elmira and Maine Prairie, Ryer Island, and Dixon Ridge regions, which are partially located in the Delta.

The Resources Chapter identifies numerous policies that apply specifically to the Delta and to the Suisun Marsh. The "Marsh" designation has been applied to the Suisun Marsh on the Land Use Diagram. This designation is designed to preserve and enhance the quality and diversity of marsh habitats. Uses in Marsh-designated areas should be restricted to, among others, agricultural activities that are compatible.

Policies from the Agriculture and Resources chapters that support the agricultural values of the Delta, including policies that apply specifically to the Suisun Marsh area, are listed below (Solano County 2008, pp. AG 28–31, RS 27–29):

Agriculture Chapter

- **Policy AG.P-3:** Encourage consolidation of the fragmented pattern of agricultural preserves and contracts established under the Land Conservation Act (Williamson Act) and the retention of agricultural preserves and contracts in agricultural, watershed, and marshland areas.

- **Policy AG.P-4:** Require farmland conversion mitigation for either of the following actions:

  a) a General Plan amendment that changes the designation of any land from an agricultural to a nonagricultural use or

  b) an application for a development permit that changes the use of land from production agriculture to a nonagricultural use, regardless of the General Plan designation.

- **Policy AG.P-28:** Recognize that agriculture is to be the predominant land use in the Dixon Ridge, Elmira and Maine Prairie, Montezuma Hills, Ryer Island, and Winters regions. These are agricultural areas where preservation efforts should be focused and conflicting land uses avoided.

Resources Chapter

- **Policy RS.P-13:** Agriculture within the Primary Management Area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing.

Intensive agricultural activities involving removal or persistent plowing of natural vegetation and maintenance of fallow land during part of the year should not be permitted.

- **Policy RS.P-14:** Agricultural uses consistent with protection of the Suisun Marsh, such as grazing and grain production, should be maintained in the Secondary Management Area. In the event such uses become infeasible, other uses compatible with protection of the Marsh should be permitted.

- **Policy RS.P-23:** Ensure that extension of new utilities and infrastructure facilities, including those that support uses and development outside the Delta is consistent with the Land Use and Resource Management Plan for the Primary Zone of the Delta. Where construction of new utility and infrastructure facilities is appropriate, the effects of such new construction on the integrity of levees, wildlife, and agriculture activities shall be minimized to the extent feasible.

- **Policy RS.P-24:** Protect the unique character and qualities of the Primary Zone by preserving the cultural heritage and the strong agricultural base.

### Suisun Marsh Policy Addendum

The *Solano County General Plan* Resources Element identifies policies that are part of the county's component of the Suisun Marsh Local Protection Program. In addition, Appendix C of the general plan identifies more specific local protection program policies. These policies have also been incorporated into the Solano County component of the Suisun Marsh Local Protection Program and address a variety of issues, including biological resources, wildlife habitat, agriculture, water quality, and recreation. The following policy from the *Suisun Marsh Policy Addendum* supports the agricultural values of the Delta (Solano County 2008, Appendix C, pp. C-3, C-15):

- **Agriculture Policy 1:** Agriculture within the primary management area of the Suisun Marsh should be limited to activities compatible with, or intended for, the maintenance or improvement of wildlife habitat. These include extensive agricultural uses such as grain production and grazing. Intensive agricultural activities involving removal or persistent plowing of natural vegetation should not be permitted. Grain production should be confined to the Grizzly Island Wildlife Area and relatively small, well-suited areas of some of the large duck clubs. Grazing should be used to control vegetation on duck clubs where plant cover is sub-optimum for waterfowl use and should be discouraged on those clubs where there is already a good mixture of preferred waterfowl food plants. Grazing pressures should not exceed sound range management practices.

#### *Measure A and Measure T – Orderly Growth Initiative*

Solano County voters adopted Measure A in 1984. The provisions of Measure A were extended with the adoption of the Orderly Growth Initiative in 1994. Under the provisions of the Orderly Growth Initiative, a popular vote is required to redesignate Agriculture or Open Space lands to another land use category or to increase the density of development on designated Agriculture or Open Space lands.

In November 2008, following adoption of the *Solano County General Plan* update, voters approved Measure T, which extended the provisions of the Orderly Growth Initiative by:

- Approving a new General Plan Land Use Diagram

- Readopting the Orderly Growth Initiative's policies that require a popular vote in order to change the designation of Agriculture or Natural Resource lands through December 31, 2028

- Approving agricultural policies that define 10 geographic agricultural regions and allow limited processing and support services in areas designated for agriculture as described in the general plan Agriculture Chapter

- Approving density standards for development of Agriculture or Natural Resource lands to comply with the updated general plan, and extending the effect of those density standards through December 31, 2028

*City of Rio Vista General Plan*

The *City of Rio Vista General Plan 2001* was adopted on July 18, 2002. The following policy from the Resource Conservation and Management Chapter of the general plan supports the agricultural values of the Delta (City of Rio Vista 2002, p. 10-31):

- **Policy 10.3.A:** The City shall ensure that agricultural operations, natural resource protection, water-related recreation, and public facility uses shall remain the only allowable uses in the Delta Primary Zone.

*City of Suisun City General Plan*

The *City of Suisun City General Plan* was adopted in May 1992. The City of Suisun City is currently updating its general plan and anticipates adoption of the updated plan in 2012. One important open space goal of the general plan is the provision of a variety of open spaces to meet community needs for environmental protection, agriculture, recreation, flood management, and water quality (City of Suisun City 1992).

*City of Fairfield*

The City of Fairfield General Plan was adopted in June 2002. The General Plan Land Use Element and Open Space/Conservation and Recreation Element contain a number of policies for preserving the hillside areas around Fairfield and agricultural lands in Suisun Valley and Green Valley. The City has a right-to-farm ordinance, and is bound by the terms of an agreement which prohibits extension of City services to, or annexation of, land in Suisun Valley. The Agriculture Element includes policies to emphasize preservation and enhancement of agricultural lands and activities in the Fairfield General Plan Area, and to reduce or eliminate conflicts between agricultural and urban uses. The city has a small area of incorporated land in the Suisun Marsh (City of Fairfield 2002, p. AG-1).

*City of Benicia*

The *City of Benicia General Plan* was adopted on July 15, 1999. Agriculture policies are provided in the Open Space and Conservation of Resources chapter. The city has a small area of incorporated land in the Suisun Marsh (City of Benicia 1999).

#### 5.3.1.4 San Joaquin County

*San Joaquin County General Plan*

The *San Joaquin County General Plan 2010* was adopted on July 29, 1992. San Joaquin County is currently updating its general plan. Adoption of the updated general plan is anticipated in summer 2011 (San Joaquin County 2008). The Resources Element addresses countywide protection of various natural resources, including open space and agricultural lands. Policies from this element that support the agricultural values of the Delta include the following (San Joaquin County 1992, pp. VI-2, VI-12):

- **Agricultural Lands Policy 5:** Agricultural areas shall be used principally for crop production, ranching, and grazing. All agricultural support activities and non-farm uses shall be compatible with agricultural operations and shall satisfy the following criteria:

  - The use requires a location in an agricultural area because of unusual site area requirements, operational characteristics, resource orientation, or because it is providing a service to the surrounding agricultural area;

- The operational characteristics of the use will not have a detrimental impact on the management or use of surrounding agricultural properties;
- The use will be sited to minimize any disruption to the surrounding agricultural operations; and
- The use will not significantly impact transportation facilities, increase air pollution, or increase fuel consumption.

*City of Tracy General Plan*

The *City of Tracy General Plan* was adopted in February 2011. The following land use policies support the agricultural values of the Delta (City of Tracy 2011, p. 2-29):

- **Policy P1:** The Urban Reserve designation shall be applied to relatively large, contiguous geographic areas where comprehensive planning is expected to occur.
- **Policy P2:** The City shall periodically review and modify Urban Reserve areas as needed to ensure an adequate, long term supply of developable land and balance land uses.

*City of Lathrop General Plan*

The Resource Management Element of the *Comprehensive General Plan for the City of Lathrop* addresses agricultural lands; vegetation, fish, and wildlife habitat; and cultural resources. The following resource management policies support the agricultural values of the Delta (City of Lathrop 1991, p. 5-3):

- **Agricultural Land Policy 1:** The extent of urbanization proposed within the three sub-plan areas is based on the principle that the capacity to accommodate population and economic growth is dictated by the need to preserve environmental qualities rather than the potential of Lathrop to grow beyond its planning area boundaries. If future conditions indicate a potential for further urbanization greater than that encouraged by the General Plan west and south of the planning area, such potential is to be satisfied within the sphere of influence of local governments other than Lathrop.
- **Agricultural Land Policy 3:** The protection of agricultural lands outside of the three sub-plan areas shall be reinforced by firm policies of the City to not permit the extension of sewerage and water service to such lands.
- **Agricultural Land Policy 4:** The City, the County, and affected landowners should develop a comprehensive approach to the cancellation of Williamson Act contracts on lands needed for early phases of urban development. Projects that are intended to take more than five years to complete shall be phased to allow agricultural operations to continue as long as feasible on lands to be developed after five years.

More than half of the city is located in the Delta, including the three subplan areas referenced in the policies above. The city assumes complete buildout of the general plan in the subplan areas and protects lands outside of these areas from conversion.

*City of Stockton General Plan*

The following Land Use Element policies of the *Stockton General Plan 2035* support the agricultural values of the Delta (City of Stockton 2007, p. 3-12):

- **Policy LU-2.1: Agricultural Land Preservation.** The City shall limit the wasteful and inefficient sprawl of urban uses into agricultural lands.

**Policy LU-2.2: Agricultural Buffer.** The City shall support the establishment of a permanent agricultural/open space buffer along the ultimate edge of the Urban Service Area. Buffer or setback areas would follow along parcel boundary lines and be established with a minimum width of 100 feet.

*City of Manteca*

The *City of Manteca General Plan* was adopted in October 2003 (City of Manteca 2003, p. 1-1). The southwestern corner of the city includes incorporated land in the Secondary Zone that is designated as residential, commercial, agriculture, and open space.

### 5.3.1.5 Contra Costa County

*Contra Costa County General Plan*

A comprehensive update to the *Contra Costa County General Plan* was adopted on January 18, 2005, to guide future growth, development, and resource conservation through 2020 (Contra Costa County 2005). *Contra Costa County General Plan* policies that support the agricultural values of the Delta are listed below (Contra Costa County 2005, pp. 3-37–3-39, 8-3):

Land Use Element

- **Policy 3-54:** All public and private management and development activities within the Primary Zone of the Delta shall be consistent with the goals, policies, and provisions of the "Land Use and Resource Management Plan for the Primary Zone of the Delta" as adopted and as may be amended by the Delta Protection Commission.

- **Policy 3-69:** The Southeast County area is almost exclusively planned for agricultural, watershed, or public purposes. New land uses within this plan area should be limited to those which are compatible to the primary agricultural and watershed purposes of the area (farming, ranching, poultry raising, animal breeding, aviaries, apiaries, horticulture, floriculture ,and similar agricultural uses and structures) and consistent with the multiple use philosophy enumerated by this plan.

  - Subject to specific project review and the policies listed within this plan, the following uses are generally consistent with the planned agricultural areas:

    - Public and private outdoor recreational facilities;
    - Dude ranches, riding academies, stables;
    - Wind energy conversion systems;
    - Single family residences on larger lots [1.0 to 2.9 dwelling units per acre];
    - Mineral resources quarrying;
    - Oil and gas wells;
    - Pipelines and transmission lines; and
    - Veterinarian offices and kennels.

Conservation Element

- **Policy 8-2:** Areas that are highly suited to prime agricultural production shall be protected and preserved for agriculture, and standards for protecting the viability of agricultural land shall be established.

*Measure C*

In 1990, voters passed Measure C to establish an Urban Limit Line (ULL) in the county and the 65/35 Land Preservation Standard, the latter of which limits development to no more than 35 percent of the land in the county and preserves at least 65 percent of land for agriculture, open space, wetlands, parks, and other nonurban uses (Contra Costa County 2005, p. 1-2).

### *Measure L*

In November 2006, voters approved Measure L, which requires voter approval for any proposal to extend the ULL by more than 30 acres. Provisions of the ULL are in effect through 2026. Except for Bethel Island and an area around Discovery Bay, most of the eastern portion of the county is outside of the ULL (Contra Costa County 2005, p. 3-10, Figure 3-1).

### *City of Oakley General Plan*

The *City of Oakley General Plan* was adopted on December 16, 2002. The following goal from the Open Space and Conservation Element supports the agricultural values of the Delta (City of Oakley 2002, p. 6-3):

- **Goal 6.1:** Allow agriculture to continue as a viable use of land that reflects the community's origins and minimizes conflicts between agricultural and urban uses.

### *City of Brentwood General Plan*

The *City of Brentwood General Plan* originally was adopted in 1993 and was updated in November 2001. Most of the incorporated area of Brentwood is located in the Secondary Zone. The general plan land use map identifies more than 20,000 acres beyond the city limits but within the general plan planning area as Agricultural Conservation. The following policies from the *City of Brentwood General Plan* Conservation/Open Space Element support the agricultural values of the Delta (City of Brentwood 2001, p. IV.1-4):

- **Policy 1.1 - Agricultural Preservation:** Support preservation of productive agricultural lands and provide appropriate programs.
  - **1.1.1 - Consistency with County:** Work with the County of Contra Costa to establish consistent policies for agricultural lands in Brentwood's Planning Area.
  - **1.1.2 - 65/35 Strategy:** Implement the 65/35 growth management strategy and require urban development to only occur within the designated Urban Limit Line.
  - **1.1.3 - Intergovernmental Cooperation:** Cooperate with Contra Costa County, Antioch, and Oakley in programs which establish community separators and other permanent agricultural areas.
  - **1.1.4 - Secure Agricultural Lands:** Establish a program which secures permanent agriculture on lands designated for agriculture in the City and/or County General Plan. The program should include joint use concepts (e.g., wastewater irrigation), land dedication (e.g., secured through development agreements) and a transfer of development/in-lieu fee ordinance. The program should also create incentives for continuing agriculture (e.g., long-term irrigation water contracts) and assurances that potential ag-urban conflicts will be mitigated.
  - **1.1.5 - Maintain Prime Agricultural Land:** Maintain prime agricultural lands south of ECCID main channel and east of Sellers Avenue and direct urban growth to the west and the north

#### 5.3.1.6 Alameda County

*East County Area Plan*

Land use planning in the eastern portion of Alameda County is governed by the *East County Area Plan*, which was adopted as a part of the general plan by the county in May 1994. The *East County Area Plan* policies that support the agricultural values of the Delta include (Alameda County 1994, pp. 18–24):

- **Policy 52:** The County shall preserve open space areas for the protection of public health and safety, provision of recreational opportunities, production of natural resources (e.g., agriculture, windpower, and mineral extraction), protection of sensitive viewsheds, preservation of biological resources, and the physical separation between neighboring communities.
- **Policy 54:** The County shall approve only open space, park, recreational, agricultural, limited infrastructure, public facilities (e.g., limited infrastructure, hospitals, research facilities, landfill sites, jails, etc.), and other similar and compatible uses outside the Urban Growth Boundary.
- **Policy 71:** The County shall conserve prime soils (Class I and Class II, as defined by the USDA [U.S. Department of Agriculture] Soil Conservation Service Land Capability Classification) and Farmland of Statewide Importance and Unique Farmland (as defined by the California Department of Conservation Farmland Mapping and Monitoring Program) outside the Urban Growth Boundary.
- **Policy 74:** The County shall require that, where conflicts between a new use and existing use are anticipated, the burden of mitigating the conflicts be the responsibility of the new use.
- **Policy 86:** The County shall not approve cancellation of Williamson Act contracts within or outside the County Urban Growth Boundary except where findings can be made in accordance with State law, and the cancellation is consistent with the Measure D (see below) In no case shall contracts outside the Urban Growth Boundary be canceled for purposes inconsistent with agricultural or public facility uses.

*Measure D*

In November 2000, the Alameda County electorate approved the *Save Agriculture and Open Space Lands Initiative* (Measure D). The initiative amended portions of the county general plan, including the *East County Area Plan*. One of the purposes of this initiative is to preserve and enhance agriculture and agricultural lands.

#### 5.3.1.7 Other Delta and Suisun Marsh Plans and Regulations

*County Right-to-Farm Ordinances*

A right-to-farm ordinance is commonly adopted by counties with a prominent agricultural presence to protect agricultural operations from nuisance complaints and actions associated with adjacent residential uses. In the Delta, Sacramento, Yolo, Solano, San Joaquin, and Contra Costa counties have adopted right-to-farm ordinances.

### *5.3.2 Plans and Regulations for the Delta Watershed and Areas Outside the Delta That Use Delta Water*

General plan land use designations within the Delta watershed and areas outside the Delta that use Delta water are shown in Figure D-2.

Activities associated with Delta Plan implementation may also be subject to local zoning or other ordinances and general plans of cities and counties in the Delta watershed and areas outside the Delta that use Delta water. These regulatory requirements may include compliance with general plan elements and

Williamson Act land programs. The Williamson Act is described in Section 4.0, Land Use and Planning Regulatory Framework, under Section 4.2, State Regulatory Framework.

# 6.0 Visual Resources Regulatory Framework

## 6.1 Federal Regulatory Framework

### *6.1.1 Sierra Resource Management Plan*

In 2008, the U.S. Bureau of Land Management (BLM) approved the *Sierra Resource Management Plan*, which outlines a management strategy for 2,035 acres of the Cosumnes River Preserve. The plan was prepared to comply with the Federal Land Policy and Management Act, and identifies goals, objectives, and management actions addressing 19 resource areas, including visual resources. The visual resources goal is to "protect and enhance the scenic qualities and visual integrity of the characteristic landscapes in the planning area." The plan designates the Cosumnes River Preserve as an Area of Critical Environmental Concern, requiring special management to protect important natural or cultural resource values (BLM 2008).

### *6.1.2 Coastal Zone Management Act*

The CZMA is summarized in Section 1.0, Water Resources Regulatory Framework. Sections 302, 303, and 306 of the CZMA address aesthetic and visual resources in coastal zones.

- Section 302 (16 United States Code [USC] section 1451). The Congress finds that
  - (b) The coastal zone is rich in a variety of natural, commercial, recreational, ecological, industrial, and esthetic resources of immediate and potential value to the present and future well-being of the Nation
  - (e) Important ecological, cultural, historic, and esthetic values in the coastal zone which are essential to the well-being of all citizens are being irretrievably damaged or lost.
- Section 303 (16 USC section 1452). The Congress finds and declares that it is the national policy
  - (2) to encourage and assist the states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values as well as the needs for compatible economic development, which programs should at least provide for
  - (F) assistance in the redevelopment of deteriorating urban waterfronts and ports, and sensitive preservation and restoration of historic, cultural, and esthetic coastal features.
  - (d)(2)(G) A definition of the term "beach" and a planning process for the protection of, and access to, public beaches and other public coastal areas of environmental, recreational, historical, esthetic, ecological, or cultural value.
  - (d)(9) The management program includes procedures whereby specific areas may be designated for the purpose of preserving or restoring them for their conservation, recreational, ecological, historical, or esthetic values.
- Section 306 (16 USC section 1455).

2777 Figure D-2
2778 General Plan Land Use Designations within the Delta Watershed and Areas Outside the Delta That Use Delta Water
2779 *Source: California Resources Agency and UCD 2004*


2780

# 6.2 State Regulatory Framework

## *6.2.1 Delta Protection Act of 1992*

The Delta Protection Act of 1992 (Pub. Resources Code section 21080.22) includes a series of findings and declarations related to the quality of the Delta environment, and emphasizes the national, State of California, and local importance of protecting the unique resources of the Delta. It does not address aesthetics or visual resources directly.

## *6.2.2 Suisun Marsh Protection Plan*

BCDC's *Suisun Marsh Protection Plan* contains findings that recognize the value of the aesthetic resources of the Suisun Marsh, as well as adjacent upland grasslands, cultivated areas, and seasonal marshes. The plan is intended "to preserve the integrity and assure continued wildlife use" and establishes that the Suisun Marsh "represents a unique and irreplaceable resource to the people of the state and nation" (BCDC 1976).

The eastern boundary of the Suisun Marsh extends to Collinsville Road in southern Solano County. The following visual resource policy is applicable to the Delta Plan:

- **Policy 8 (g):** Industrial facilities should be located and designed to avoid visual intrusion on the Suisun Marsh. Where sloping land is to be used for industrial development, it should be terraced, rather than leveled, and soil erosion and stormwater runoff should be controlled. Buildings should not be highly visible against the skyline, should have a low profile, be well designed and unobtrusive in appearance, and use colors and materials compatible with the surrounding landscapes. Appropriate landscaping should be used to reduce the impact of industrial structures on views from the Suisun Marsh.

## *6.2.3 Suisun Marsh Preservation Act*

The Suisun Marsh Preservation Act of 1977 identifies the management of scenic resources as one of the provisions of the *Suisun Marsh Protection Plan*.

- 29004 The Legislature further finds and declares as follows:
  - (a) That the San Francisco Bay Conservation and Development Commission and the Department of Fish and Game, pursuant to the Nejedly-Bagley-Z'berg Suisun Marsh Preservation Act of 1974 (former Chapter 9 (commencing with Section 1850) of Division 2 of the Fish and Game Code), have made a detailed study of the Suisun Marsh; that there has been extensive participation by other governmental agencies, private interests, and the general public in the study; and that, based on the study, the commission has prepared the Suisun Marsh Protection Plan for the orderly and long-range conservation, use, and management of the natural, scenic, recreational, and manmade resources of the marsh.

## *6.2.4 California Scenic Highway Program*

The California Department of Transportation (Caltrans) manages the California Scenic Highway Program to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to the highways. Designation as a scenic highway is determined by views of natural landscape, scenic quality, and the extent of visual intrusion. A city or county must nominate an eligible scenic highway for official designation and adopt a corridor protection program that includes zoning and planning policies to preserve its scenic quality. These policies are discussed below in the context of county and city general plans. Specific scenic highways within the Delta and the Suisun Marsh are identified in the discussions of particular county and city general plans below.

### 6.2.5 Cosumnes River Preserve Management Plan

The *Sierra Resource Management Plan* required preparation of a management plan for the Cosumnes River Preserve (BLM 2008, p. 39). The *Cosumnes River Preserve Management Plan* is discussed in Section 6 of this EIR, Land Use and Planning.

The management plan includes the following visual resource objectives that support the cultural and recreational values of the Delta (Cosumnes River Preserve 2008, pp. 6-8 and 6-9):

- **Objective 2.1:** All partners should manage their land in a manner that retains and/or improves the existing visual character of the landscape. Proposed land-management changes should not disrupt the distant and close views.
- **Objective 2.2**: Minimize the negative effects of outdoor nighttime lighting.

### 6.2.6 Brannan Island and Franks Tract State Recreation Areas General Plan

The Brannan Island (336 acres) and Franks Tract (3,300 acres) State Recreation Areas (SRAs) are near the western edge of the central Delta. The *General Plan for Brannan Island and Franks Tract State Recreation Areas* includes the following resource management policy related to aesthetic resources for Brannan Island SRA (State Parks 1988, p. 47):

> *Management of Brannan Island SRA shall be toward the maintenance of water oriented viewsheds, natural landscape, and toward a reduction or elimination of human-made intrusions. The department shall work to reduce the negative impacts of easements in Brannan Island SRA. All utility companies shall be encouraged or required to reduce these impacts by rerouting or placing underground the utility lines that currently traverse the unit, by reducing the size of and rehabilitating gas well pads, and by screening and landscaping around gas wells. The department is opposed to any new easements within the unit unless there can be mitigation work accomplished to create a clear net benefit to recreation resources.*

For Franks Tract SRA, the resource management policy for aesthetic resources states, "Management of Franks Tract SRA shall be toward the maintenance and preservation of the natural environment of this unit" (State Parks 1988, p. 64).

In addition, the general plan contains a Land Use and Development Element for the Brannan Island SRA, which includes the following goals related to aesthetic resources (State Parks 1988, p. 73):

- **Goal 11:** Increase the scenic quality of the Highway 160 corridor through the unit, highlighting the entrances at each end and screening the recreation use areas.
- **Goal 12:** Reduce the existing visual impacts, and improve the environmental setting of all current and future use areas through landscaping and habitat enhancement.

There are no goals related to aesthetic resources for Franks Tract SRA.

## 6.3 Local Regulatory Framework

Goals, objectives, and policies related to visual resources in adopted general plans for each county, special district, and incorporated city in the Delta and the Suisun Marsh are discussed below.

### 6.3.1 East Bay Regional Park District Master Plan

The East Bay Regional Park District (EBRPD) manages more than 100,000 acres in 65 regional parks and 1,100 miles of trails in Alameda and Contra Costa counties (EBRPD 2010). Existing EBRPD lands in the

Delta include Antioch Regional Shoreline, Big Break Regional Shoreline, Bay Point Wetlands Regional Shoreline, and Browns Island Regional Preserve. The *East Bay Regional Park District Master Plan* specifically recognizes the conservation of scenic, natural, and open space resources as a primary duty, and provides mission statements to meet this vision. Scenic resources are among the resources that EBRPD seeks to protect, specifically through the following strategies (EBRPD 1997, p. 10):

- Acquire and preserve significant biologic, geologic, scenic, and historic resources within Alameda and Contra Costa counties.
- Manage, maintain, and restore the parklands so that they retain their important scenic, natural, and cultural values.

EBRPD is planning to update the master plan. The update will identify new potential regional trails and parklands, including Delta recreation areas east of Franks Tract; Delta access north of Discovery Bay, Bethany Reservoir, and Point Edith Wetlands; and numerous trails that follow waterways and traverse open space in the Delta (EBRPD 2010).

## *6.3.2 Sacramento County*

### 6.3.2.1 Sacramento County General Plan

The *Sacramento County General Plan* addresses aesthetic resources primarily in its Scenic Highways Element. The following roadways are considered by the county to be scenic (Sacramento County 1993, pp. 7–13):

- State Route 160 (SR-160)
- River Road
- Isleton Road
- Twin Cities Road between SR-160 and SR-99

The scenic corridor designation also applies to the streams, slough, and channels of the Delta. The *Sacramento County General Plan* (Sacramento County 1974, p. 7) states:

> *A number of County roads run on the crowns of levees along the rivers and sloughs of the Delta. These are narrow roads which give a near view of the water and far views of fields on both sides. The roads are used to give access to the Delta, including recreational access. Like the River Road, these roads are protected by the General Plan designation of Permanent Agriculture and by agricultural zoning. They are also protected by scenic corridor sign control*.

The following objectives seek to protect Sacramento County's scenic routes and support the cultural and recreational values of the Delta:

- **Objective (1):** To retain designation of the River Road (State Highway 160) as an Official State Scenic Highway and to preserve and enhance its scenic qualities.
- **Objective (4):** To strengthen the provisions of scenic corridor regulations so as to further protect the aesthetic values of the County's freeways and scenic roads.

In addition, the Scenic Highways Element seeks to strengthen protection of scenic routes through zoning restrictions and designation of additional roads, and it encourages Sacramento County to coordinate with the Delta Advisory Planning Council and the DWR regarding levee maintenance (Sacramento County 1974, p. 16).

#### 6.3.2.2 City of Isleton General Plan

The *Comprehensive General Plan and Environmental Impact Report for the City of Isleton* includes one goal relating to aesthetic resources. Goal 5, Enhancing the Quality of Life (City of Isleton 1999, p. II-2) states:

> *It should be a goal of the General Plan to enhance the quality of living by preventing the degradation of the natural environment, and by taking steps to offset and alleviate the effects of that degradation which already has occurred. Where feasible, natural conditions should be emulated as features of the community's systems of public and private open space.*

#### 6.3.2.3 City of Sacramento General Plan

The *City of Sacramento General Plan* includes a goal to "maintain and protect significant visual resources and aesthetics that define Sacramento" (Goal ER 7.1). The following policies support the cultural and recreational values of the Delta (City of Sacramento 2009, p. 2-325):

- **Policy ER 7.1.1: Protect Scenic Views.** The City shall seek to protect views from public places to the Sacramento and American rivers and adjacent greenways, landmarks, and urban views of the downtown skyline and the State Capitol along Capitol Mall.
- **Policy ER 7.1.2: Visually Complementary Development.** The City shall require new development be located and designed to visually complement the natural environment/setting when near the Sacramento and American rivers, and along streams.

Additional policies seek to minimize impacts on visual resources from new development, including the removal of significant resources (e.g., mature trees) and the creation of obtrusive lighting and glare (City of Sacramento 2009, pp. 2-326 and 2-327).

#### 6.3.2.4 City of Elk Grove General Plan

The *City of Elk Grove General Plan* includes the following goal that supports the cultural and recreational values of the Delta (City of Elk Grove 2003, p. 43):

> *Although not within the current incorporated boundaries of Elk Grove, a portion of the Sacramento River Delta is inside the larger Planning Area of the General Plan…. Therefore, the City's long-term land use policies will require coordination with the Delta Protection Commission (a State agency) once these lands are included within the corporate boundary of Elk Grove.*

### *6.3.3 Yolo County*

#### 6.3.3.1 Yolo County General Plan

The *Yolo County General Plan* discusses aesthetic resources in the Land Use and Community Character Element. Goals and policies seek to protect and enhance the rural landscape and night sky, important site features (e.g., watercourses), and scenic views (Yolo County 2009, p. LU-28). The following policies specific to the preservation of scenic roadways support the cultural and recreational values of the Delta (Yolo County 2009, pp. LU-30 through LU-32):

- **Policy CC-1.12:** Preserve and enhance the scenic quality of the County's rural roadway system. Prohibit projects and activities that would obscure, detract from, or negatively affect the quality of views from designated scenic roadways or scenic highways.

- **Policy CC-1.13:** The following routes are designated as local scenic roadways, as shown in Figure LU-3 (Scenic Highways) [limited to one route in the Delta and Suisun Marsh]:
  - South River Road (West Sacramento City Limits to Sacramento County line)
- **Policy CC-1.15:** The following features shall be protected and preserved along designated scenic roadways and routes except where there are health and safety concerns:
  - Trees and other natural or unique vegetation
  - Landforms and natural or unique features
  - Views and vistas
  - Historic structures (where feasible), including buildings, bridges, and signs
- **Policy CC-1.16:** The following features shall be stringently regulated along designated scenic roadways and routes with the intent of preserving and protecting the scenic qualities of the roadway or route:
  - Signage
  - Architectural design of adjoining structures
  - Construction, repair and maintenance operations
  - Landscaping
  - Litter control
  - Water quality
  - Power poles, towers, aboveground wire lines, wind power and solar power devices and antennae
- **Policy CC-1.17:** Existing trees and vegetation and natural landforms along scenic roadways and routes shall be retained to the greatest feasible extent. Landscaping shall be required to enhance scenic qualities and/or screen unsightly views and shall emphasize the use of native plants and habitat restoration to the extent possible. Removal of trees, particularly those with scenic and/or historic value, shall be generally prohibited along the roadway or route.

#### 6.3.3.2 City of West Sacramento General Plan

The *City of West Sacramento General Plan Policy Document* includes the following visual resources goal and policies that support the cultural and recreational values of the Delta (City of West Sacramento 1990, p. II-85):

- **Goal B:** To enhance the relationship between the City and the Sacramento River.
- **Policy 1:** The City shall seek to preserve the trees and other vegetation along the banks of the Sacramento River for their aesthetic qualities and environmental and ecological values.
- **Policy 34:** The City shall promote the development of important visual and scenic areas along the riverfront, including around the barge canal, for public access, including water-related activities.

### *6.3.4 Solano County*

#### 6.3.4.1 Solano County General Plan

The *Solano County General Plan* describes scenic vistas in Solano County as agricultural landscapes, the Delta and marshlands, and the oak- and grass-covered hills (Solano County 2008, p. RS-36). Goals and

policies to address Solano County's scenic resources are intended to protect valued landscape features and ensure that projects within scenic roadway corridors are developed in a manner that respects and maintains the integrity of viewsheds. The following visual resource policies support the cultural and recreational values of the Delta:

- **Policy RS.P-35:** Protect the unique scenic features of Solano County, particularly hills, ridgelines, wetlands, and water bodies.
- **Policy RS.P-36:** Support and encourage practices that reduce light pollution and preserve views of the night sky.
- **Policy RS.P-37:** Protect the visual character of designated scenic roadways.

Solano County identifies a number of scenic roadways in the Delta and the Suisun Marsh that are subject to local protection, including I-80, I-680, SR-12, SR-113, Grizzly Island Road, and Lake Herman Road. Goals and policies seek to protect unique scenic features (e.g., water bodies) and roadways and to minimize glare, light pollution, and disruption to scenic areas from transmission lines (Solano County 2008, Figure RS-5).

The general plan's Suisun Marsh Policy Addendum is the Local Protection Program required by BCDC's *Suisun Marsh Protection Plan*. The addendum contains policies specific to the preservation of designated scenic roadways in the Suisun Marsh, including the following policies that support the cultural and recreational values of the Delta (Solano County 2008, Appendix C-17):

- **Policy 1:** Current general plan provisions of the county which designate foreground and distant view components of scenic roadways for agricultural and other open space uses should be retained.
- **Policy 2:** The number of man-made interruptions or incidents along a scenic roadway (housing, commercial uses, signs, driveways, etc.) should be limited to maintain the current visual values as the prevalent feature of the route.

In addition, the Suisun Marsh Policy Addendum includes visual policies specific to marshlands, as follows (Solano County 2008, Appendix C-18):

- **Marshlands:** Intensive development cannot be visually absorbed into a marsh landscape without seriously disrupting the delicate foreground and unprotected background view components. Intensive development here can also result in disruption of the local ecosystem which supports the marsh and its unique and delicate visual character.
- **Policy 1:** Immediately adjoining dryland and upland within and around a marsh should remain in open space use (grazing, cropland, or other extensive uses).
- **Policy 2:** Existing animal and vegetative habitats should be protected from encroachment due to their own visual value and their role in maintaining the marsh ecosystem and its overall scenic value.

#### 6.3.4.2 City of Rio Vista General Plan

Visual resources are addressed in the Resource Conservation Element and the Open Space and Recreation Element of the *Rio Vista General Plan 2001*. The following Resource Conservation Element goals and policies support the cultural and recreational values of the Delta (City of Rio Vista 2002, p. 10-41):

- **Goal 10.11:** To protect the visual and scenic resources of Rio Vista – recognizing their importance in the quality of life for City residents and in promoting recreation and tourism.

- **Policy 10.11.A:** The City shall require new development in scenic areas (e.g., river banks, Highway 12 corridor, Sacramento River waterfront, and hillsides) to use planning, design, construction, and maintenance techniques that:
  - Incorporate design and screening measures to minimize the visibility of structures and graded areas.
  - Maximize views in sensitive viewing areas and corridors.
  - Maintain the character and visual quality of the area.
- **Policy 10.11.B:** The City shall require that new development be designed to integrate natural landforms and vegetation in order to minimize alteration of scenic vistas. Figure 10-2 [of the general plan] shall be used to identify sensitive areas of particular concern during project design and development.

The following Open Space and Recreation Element goals and policies support the cultural and recreational values of the Delta:

- **Goal 9.1:** To provide public access and view opportunities on the Sacramento River to the maximum extent feasible.
- **Policy 9.1.C:** The City shall enhance the Sacramento River and its waterfront as a scenic resource consistent with water-oriented recreation.
- **Goal 9.4:** To support the preservation and enhancement of natural landforms, natural vegetation, and natural resources as open space to the maximum extent feasible.
- **Policy 9.4A:** The City shall provide open space protection for areas of natural resource and scenic value, including wetlands, riparian corridors, floodplains, woodlands, and hillsides.

#### 6.3.4.3 City of Suisun City General Plan

The *City of Suisun City General Plan* includes the following visual resources goals and policies that support the cultural and recreational values of the Delta (City of Suisun City 1992, pp. 20, 24, 84):

- **Visual Quality and Community Character Goal:** To enhance Suisun City's visual attractiveness and maintain the historic and water-oriented character of the community.
- **Community Character Goal:** To pursue visual and design quality in both private development and public facilities that maintains and strengthens the character of Suisun City.
- **Objective 5:** To preserve and enhance visual and physical interaction of development in Suisun City and Suisun Marsh.
- **Policy 12:** Parks and Open Space: Parks and open spaces located along the edge of the Marsh should be designed to provide and accessible and open transition between human-developed spaces and the natural environment of the Marsh.

#### 6.3.4.4 City of Fairfield General Plan

Visual resources are addressed in the Urban Design (UD) Element and the Land Use (LU) Element of the *City of Fairfield General Plan.*

The following Urban Design Element goals and policies that support the cultural and recreational values of the Delta (City of Fairfield 2002, pp. UD-2 – UD-6):

- **Goal**: Enhance Fairfield's image as a unique community and retain that image in attractive and orderly development which preserves the beauty of the natural setting.
- **Objective UD 1**: Cultivate distinctiveness so that Fairfield remains unique among San Francisco Bay Area and Central Valley communities.
- **Policy UD 1.1**: Create entryways to the City that achieve a sense of arriving into the City. These entryways shall incorporate signage, landscaping, architectural features, and combinations of land uses that enhance the image of the City.
- **Objective UD 3**: Emphasize Fairfield's small-scale identity.
- **Policy UD 3.4**: Encourage private preservation of buildings which have historic significance and/or architectural merit.
- **Policy UD 4.2**: All aspects of development, including, but not limited to, grading, site planning, signage, fencing, landscaping, screening, lighting, color scheme, size, bulk, height, etc., must be integrated and relate to their surroundings in a complementary manner.
- **Policy UD 4.3**: Require the use of water features, sculptures, or other elements to help define the entrance to large projects.
- **Objective UD 5**: Preserve the natural scenic quality of the surrounding setting.
- **Policy UD 5.1**: Development should be designed to provide continuity with features of the surrounding area.
- **Policy UD 5.2**: Restrict development from significantly encroaching on public views of ridgelines, agricultural areas, the Cement Hill Range, and the Suisun Marsh.
- **Policy UD 5.3**: Develop hillside areas in a manner which respects their topography and maintains their visual integrity.
- **Objective UD 6**: Utilize extensive landscaping to beautify Fairfield's urban areas.
- **Policy UD 6.1**: Preserve existing significant trees and extensively plant new trees where appropriate.

The following Land Use Element goals and policies that support the cultural and recreational values of the Delta (City of Fairfield 2002, pp. LU-2 – LU-15):

- **Goal**: Preserve and enhance the City's desired physical character with well-balanced patterns of growth and development.
- **Objective LU 2**: Achieve a pattern of development that reinforces the City's desired image. (See Objective UD 4, Policy UD 4.1.)
- **Policy LU 2.1**: Encourage the preservation of agricultural land surrounding the City and permanently preserve agriculture in the Suisun Valley. (This policy includes programs to protect agriculture and the visual character of Suisun Valley.)
- **Policy LU 2.3**: Review and comment on all development proposals within the unincorporated areas of the City's sphere of influence and in neighboring cities.
- **Policy LU 2.4**: Establish and maintain a greenbelt buffer around the City.

- **Objective LU 13**: Minimize conflicts between land uses.
- **Policy LU 13.1**: New development shall preserve and enhance, to the extent possible, the existing natural vegetation, landscape features, and open space.
- **Policy LU 13.2**: Appropriate buffers shall be established between industrial and nonindustrial lands. (This policy includes programs that address visual quality.)
- **Objective LU 15**: Preserve identified prominent topographical features, including ridgelines, steep slopes and hillsides; and natural features such as tree stands and riparian areas.
- **Objective LU 16**: Development of identified hillside areas should be sensitive, to preserve natural features.

#### 6.3.4.5 City of Benicia General Plan

The *City of Benicia General Plan* includes the following visual resources goals and policies that support the cultural and recreational values of the Delta (City of Benicia 1999, pp. 118-121):

- **Goal 3.7:** Maintain and reinforce Benicia's small-town visual characteristics.
- **Policy 3.7.1:** Ensure that new development is compatible with the surrounding architectural and neighborhood character.
- **Policy 3.7.2:** Encourage "place-making"—the arrangement of built elements to create indoor or outdoor spaces that are recognizable and suitable for a specific function or functions.
- **Policy 3.7.3:** Encourage consistent street tree planting, other types of landscaping, and neighborhood gardens.
- **Policy 3.7.4:** Where feasible, install and maintain landscape (planter) strips that separate sidewalks from the streets.
- **Policy 3.7.5:** Preserve the grid pattern of Benicia streets.
- **Goal 3.8:** Preserve First Street as the community focal point of Benicia.
- **Policy 3.8.1:** Design new and renovated buildings along First Street to accommodate ground level retail commercial.
- **Policy 3.8.2:** In the transition areas east and west of First Street, encourage the adaptive re-use, rather than replacement, of existing residential structures.
- **Goal 3.9:** Protect and enhance scenic roads and highways.
- **Policy 3.9.1:** Preserve vistas along I-780 and I-680.
- **Policy 3.9.2:** Work with the State to complete and maintain landscaping of I-680 and I-780.
- **Policy 3.9.3:** Orient individual building/business signage toward city streets, not toward I-780.
- **Policy 3.9.4:** Develop the City's five identified gateways to provide a sense of entry and exit.
- **Policy 3.9.5:** Establish definable neighborhoods in future development and revitalization projects.
- **Goal 3.10:** Enhance the streetscape along Military East and West.
- **Goal 3.11:** Enhance the East Side.

- **Policy 3.11.1:** Focus public investment toward undergrounding utilities, completing sidewalks, adding walking paths, park amenities, landscaping, and street trees on the East Side.
- **Goal 3.12:** Improve the appearance of the Industrial Park.
- **Policy 3.12.1:** Encourage additional attractive, quality development in industrial areas.
- **Goal 3.13:** Improve urban design qualities of the waterfront and public access to the shoreline.
- **Policy 3.13.1:** Enhance waterfront vistas.
- **Policy 3.13.2:** Improve pedestrian amenities along waterfront streets and walkways.
- **Policy 3.13.3:** Take advantage of water orientation for recreation and industrial uses.

## *6.3.5 San Joaquin County*

### 6.3.5.1 San Joaquin County General Plan

The *San Joaquin County General Plan* specifically seeks to protect the Delta's aesthetic resources in the Community Development Element, which includes the following policy in the Recreation section (San Joaquin County 1992, pp. IV-114 through IV-118):

- **Policy 18:** Waterway development and development on Delta islands shall protect the natural beauty, the fisheries, wildlife, riparian vegetation, and the navigability of the waterway.

Visual resources, including scenic routes, are addressed in the Open Spaces and Water Resources and Quality sections of the Resources Element. San Joaquin County has designated the following scenic routes in the Delta (San Joaquin County 1992, Figure IV-2):

- Portions of Lower Roberts Island Road
- Bacon Island Road
- SR-4
- Eight Mile and Empire Tract roads
- I-5 in the Delta

The Resources Element also contains the following visual resource objectives and policies that support the cultural and recreational values of the Delta (San Joaquin County 1992, pp. VI-2 through VI-8):

- **Objective 1:** To preserve open space land for the continuation of commercial agricultural and productive uses, the enjoyment of scenic beauty and recreation, the protection and use of natural resources, and for protection from natural hazards.
- **Policy 10:** Views of waterways, hilltops, and oak groves from public land and public roadways shall be protected.
- **Policy 11:** Outstanding scenic vistas shall be preserved and public access provided to them whenever possible.
- **Policy 12:** The County should recognize the roads shown in Figure IV-2 as scenic routes and as valuable in enhancing the recreational experience for County residents and non-residents.
- **Policy 13:** Development proposals along scenic routes shall not detract from the visual and recreational experience.
- **Objective 5:** To recognize the surface waters of San Joaquin County as resources of State and national significance for which environmental and scenic values must be protected.

#### 6.3.5.2 City of Tracy General Plan

The *City of Tracy General Plan* addresses scenic resources in the Open Space and Conservation Element. The Open Space for Outdoor Recreation classification includes the following categories:

- Areas of outstanding scenic, historic, and cultural value
- Scenic corridors and trials
- Scenic roadways (City of Tracy 2011, Table 6-1)

In addition, Community Character Element policies include preservation and protection of the city's visual character, including important concepts and guidelines that apply to the type, location, and character of both private and public development projects for new and existing areas of the city.

#### 6.3.5.3 City of Lathrop General Plan

The *Comprehensive General Plan for the City of Lathrop, California* Resource Management Element seeks to preserve the visual character of scenic vistas including the San Joaquin River, Coast Ranges, and Sierra Nevada in addition to scenic travel corridors (City of Lathrop 1991, p. 5-2). The following visual resource policies support the cultural and recreational values of the Delta:

- **Policy 6:** The visual amenities of water and its potential as wildlife habitat are to be reflected where feasible in all developments by the inclusion of bodies of water as components of urban form. Such bodies of water may be in the form of lakes, ponds, lagoons, simulated streams, or similar features which can be integrated by design within recreation open space corridors, parks, commercial and residential areas, and public sites. The multi-purpose use of water bodies for surface water drainage, flood control wastewater reclamation, wildlife management, recreation, and visual amenity is encouraged.

- **Interstate and State Route Freeways Policy 2:** Land use designations along freeway sections should take into consideration the existing visual and noise impacts associated with existing and future traffic levels on these major traffic carrying facilities.

#### 6.3.5.4 City of Stockton General Plan

The *Stockton General Plan* identifies the city's extensive riparian areas among its most significant visual features. Scenic resources are defined as follows (City of Stockton 2007, p. 13-10):

> *Scenic resources within the City's Study Area are varied and include watercourses, existing open space areas (e.g., agricultural, etc.), view corridors, and roadways. The most significant visual features in the Study Area are the open space and agricultural fields, and the extensive riparian areas. Other notable visual features in Stockton include the Port of Stockton and Stockton Deep Water Ship Channel, County Fairgrounds, Stockton Metropolitan Airport, University of the Pacific, Weber Points Events Center, and Magnolia Historic District.*

The following Scenic Resource goal supports the cultural and recreational values of the Delta (City of Stockton 2007, p. 13-10):

- **Policy NCR-6:** To provide and maintain open space resources in Stockton and surrounding areas.

#### 6.3.5.5 City of Manteca General Plan

The *City of Manteca General Plan 2023, Policy Document* addresses scenic resources in the Land Use, Community Design, and Resources Conservation elements (City of Manteca 2003, pp. 2-20 and 2-21). Relevant policies from the Land Use element include:

- **Policy LU-P-43:** The City shall promote the provision of both public and private open space within urbanized Manteca to provide visual contrast with the built-environment and to provide for the recreational needs of Manteca residents. Private open space shall not be considered for public use, other than as visual open space, and shall not be constrained from other uses as identified in the General Plan, unless as provided for by agreement with the land owner (City of Manteca 2003, p. 2-20).

- **Policy LU-P-48:** Storm drainage systems within new development areas should include open drainage corridors, where feasible, that would provide bike and pedestrian paths, and visual open space within neighborhoods. The pedestrian connection should link parks and open space to residential neighborhoods (City of Manteca 2003, p. 2-21).

The Community Design (CD) element includes the following goal:

- **Goal CD-11:** To the extent possible, new development shall retain or incorporate visual reminders of the agricultural heritage of the community (City of Manteca 2003, p. 3-9).

The Resource Conservation (RC) element includes the following policy:

- **Policy RC-P-18:** New development shall maximize the potential for open space and visual experiences (City of Manteca 2003, p. 8-8).

### *6.3.6 Contra Costa County*

#### 6.3.6.1 Contra Costa County General Plan

The *Contra Costa County General Plan 2005–2020* designates portions of the Delta (i.e., Suisun Bay, Sacramento River, San Joaquin River, Franks Tract, Clifton Court Forebay, and Discovery Bay) as Scenic Waterways (Contra Costa County 2005, Figure 9-1). Scenic Waterways are watercourses that have recreational uses and traverse areas of substantial scenic quality (Contra Costa County 2005, p. 3-55). The Open Space Element includes goals and policies specific to Scenic Waterways, including Policy 9-28, which states, "Maintenance of the scenic waterways of the County shall be ensured through public protection of the marshes and riparian vegetation along the shorelines and delta levees...." Maintenance of existing visual resources of the Delta is also addressed in the Land Use and Conservation elements (Contra Costa County 2005, pp. 3-18 and 8-7). The following goals for scenic resources support the cultural and recreational values of the Delta (Contra Costa County 2005, p. 9-5):

- **Goal 9-10:** To preserve and protect areas of identified high scenic value, where practical, and in accordance with the Land Use Element map.

- **Goal 9-12:** To preserve the scenic qualities of the San Francisco Bay/Delta estuary system and the Sacramento-San Joaquin River/Delta shoreline.

The Transportation and Circulation Element includes a goal to "identify, preserve and enhance scenic routes in the county," and identifies scenic routes that traverse corridors of relatively high visual or cultural value. SR-160 and the SR-4 Bypass are both Contra Costa County–designated scenic highways, as well as eligible State scenic highways, although not designated by Caltrans. The general plan states that "most scenic routes depend on natural landscape qualities for their aesthetics" (Contra Costa County 2005, p. 5-20). SR-4, County Road J4, Bethel Island Road, Jersey Island Road, Walnut Boulevard, and

other roadways mapped on Contra Costa County's Scenic Routes Plan are also county-designated scenic routes in the Delta and the Suisun Marsh.

The scenic routes goal in the general plan is "to identify, preserve and enhance scenic routes in the county." The following policies support Delta Plan objectives (Contra Costa County 2005, p. 5-21):

- **Policy 5-35:** Scenic corridors shall be maintained with the intent of protecting attractive natural qualities adjacent to various roads throughout the county.
- **Policy 5-37:** Scenic views observable from scenic routes shall be conserved, enhanced, and protected to the extent possible.
- **Policy 5-43:** Provide special protection for natural topographic features, aesthetic views, vistas, hills, and prominent ridgelines as "gateway" sections of scenic routes. Such "gateways" are located at unique transition points in topography or land use, and serve as entrances to regions of the County.

#### 6.3.6.2 City of Antioch General Plan

The *City of Antioch General Plan* discusses views, view corridors, and other aesthetics topics in the Community Image and Design and Resource Management elements (City of Antioch 2003, p. 5-1). Antioch seeks to preserve and enhance the city's visual character, including its natural features and view corridors (City of Antioch 2003, p. 5-5). Antioch's goal is to "[s]ustain Antioch's identity as 'Gateway to the Delta' and provide the visual character of a unique, desirable living environment" (City of Antioch 2003, p. 5-8). To support this goal, the general plan includes a policy to "[m]aintain view corridors from public spaces to natural ridgelines and landmarks, such as Mount Diablo and distant hills, local ridgelines, the San Joaquin River, and other water bodies" (City of Antioch 2003, p. 5-9).

#### 6.3.6.3 City of Oakley General Plan

The *Oakley 2020 General Plan* states that "scenic resources in Oakley include predominant natural landscape features of the Delta waterways and views of Mount Diablo to the west." The following Open Space and Conservation Element policies support the cultural and recreational values of the Delta (City of Oakley 2002, p. 6-7):

- **Policy 6.7.1:** Encourage preservation and enhancement of views of the Delta and Mount Diablo to the extent possible.
- **Policy 6.7.2:** New development and redevelopment along the Delta, adjacent to Marsh Creek and throughout the City should take advantage of view opportunities and reduce visual impacts to the waterway and Mount Diablo, respectively.

The following Parks and Recreation Element policy supports the cultural and recreational values of the Delta (City of Oakley 2002, p. 6-9):

- **Policy 7.4.11:** Protect the visual accessibility of waterways by avoiding future development that creates visual barriers adjacent to or along the water's edge.

#### 6.3.6.4 City of Pittsburg General Plan

The *Pittsburg 2020: A Vision for the 21st Century. City of Pittsburg General Plan* addresses visual resources in the Open Space, Youth, and Recreation Element, which outlines the city's policy approach to developing parks, open spaces, and trails (City of Pittsburg 2001, p. 8-16). The following aesthetics-related goal supports the cultural and recreational values of the Delta:

- **Goal 8-G-7:** Promote improved views of the shorelines from public parks and rights-of-way.

#### 6.3.6.5 City of Brentwood General Plan

The *City of Brentwood General Plan* discusses aesthetic resources in the Land Use and Community Design elements. It includes a policy to "[p]rotect selected significant habitat areas for their ecological, educational, scenic and recreational values" (City of Brentwood 1993, p. II.1-72).

### *6.3.7 Alameda County*

A portion of the Delta Secondary Zone overlaps with a small portion of northeast Alameda County on land that is outside of the county's Urban Growth Boundary (Alameda County 1994, Figure 4). The *East County Area Plan* serves as the general plan document for eastern Alameda County. It includes a goal "to preserve unique visual resources and protect sensitive viewsheds" (Alameda County 1994, p. 30). Policies supporting this goal include a requirement to maximize prominent visual features in the area (Policy 112) and avoid grading large stands of mature, healthy vegetation; scenic natural formations; or natural watercourses (Policy 118) (Alameda County 1994, p. 32).

# 7.0 Air Quality Regulatory Framework

Air quality in the study area and throughout California is regulated at the federal, State, and local levels, as described in the following sections.

## 7.1 Federal Regulatory Framework

National air quality policies are regulated through the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 amendments. This section briefly describes the ambient air quality standards established by the USEPA pursuant to the CAA. This section addresses the requirements that result from USEPA designations of air basins as nonattainment, attainment, and maintenance areas for these standards. The section also describes the general conformity regulation for federal actions.

### *7.1.1 National Ambient Air Quality Standards and Federal Air Quality Designations*

Pursuant to the CAA, the USEPA has established national ambient air quality standards (NAAQS) for the following air pollutants: ozone ($O_3$), carbon monoxide (CO), nitrogen oxides ($NO_x$) as nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter less than 10 microns in aerodynamic diameter ($PM_{10}$), particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$), and lead. These standards apply to the entire U.S. These pollutants are referred to as criteria pollutants because numerical health-based criteria have been established that define acceptable levels of exposure for each pollutant. USEPA has revised the NAAQS several times since their original implementation and will continue to do so as the health effects of exposure to pollution are better understood. As new NAAQS are adopted, ambient air quality monitoring data are reviewed by geographic area, and USEPA designates pollutant-specific attainment status for the new standards. The current NAAQS are presented in Table D-4. The current California ambient air quality standards, or CAAQS, are also presented in Table D-4. The CAAQS are discussed later in this section.

The USEPA designates areas as attainment, nonattainment, or unclassified for individual criteria pollutants depending on whether the areas achieve the applicable NAAQS for each pollutant. An area can be designated as attainment for one pollutant (for example, $NO_x$) and nonattainment for others (for example, $O_3$ and $PM_{10}$).

Table D-4
Ambient Air Quality Standards

| Pollutant | Averaging Time | CAAQS[a] | NAAQS[b] | |
|---|---|---|---|---|
| | | | Primary[c] | Secondary[d] |
| Ozone ($O_3$) | 8 hours<br>1 hour | 0.070 ppm<br>0.09 ppm | 0.075 ppm<br>— | 0.08 ppm<br>— |
| Respirable Particulate Matter ($PM_{10}$) | Annual Arithmetic Mean<br>24 hours | 20 µg/m$^3$<br>50 µg/m$^3$ | —<br>150 µg/m$^3$ | —<br>150 µg/m$^3$ |
| Fine Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean<br>24 hours | 12 µg/m$^3$<br>— | 15 µg/m$^3$<br>35 µg/m$^3$ | 15 µg/m$^3$<br>35 µg/m$^3$ |
| Carbon Monoxide (CO) | 8 hours<br>1 hour | 9.0 ppm<br>20 ppm | 9 ppm<br>35 ppm | —<br>— |
| Oxides of Nitrogen ($NO_x$) as Nitrogen Dioxide ($NO_2$) | Annual Arithmetic Mean<br>1 hour | 0.030 ppm<br>0.18 ppm | 0.053 ppm<br>0.100 ppm | 0.053 ppm<br>— |
| Sulfur Dioxide ($SO_2$) | 24 hours<br>3 hours<br>1 hour | 0.04 ppm<br>—<br>0.25 ppm | —<br>—<br>0.075 ppm | —<br>0.5 ppm<br>— |
| Lead[e] | Calendar Quarter<br>Rolling 3-month Average<br>30-day Average | —<br>—<br>1.5 µg/m$^3$ | 1.5 µg/m$^3$<br>0.15 µg/m$^3$<br>— | 1.5 µg/m$^3$<br>0.15 µg/m$^3$<br>— |
| Visibility-reducing Particles | 8 hours | —[f] | — | — |
| Sulfates | 24 hours | 25 µg/m$^3$ | — | — |
| Hydrogen Sulfide | 1 hour | 0.03 ppm | — | — |
| Vinyl Chloride[e] | 24 hours | 0.01 ppm | — | — |

[a] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and suspended particulate matter ($PM_{10}$, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded.

[b] National standards other than ozone, particulate matter, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For $PM_{10}$, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m$^3$ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

[c] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[d] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[e] The ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. ARB made this determination following the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[f] Insufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

µg/m$^3$ = micrograms per cubic meter

ppm = parts per million (by volume)

Source: ARB 2010a. (California Air Resources Board). California Ambient Air Quality Standards (CAAQS). September 8. Site accessed January 24, 2011. http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm.

There are numerous classifications of the nonattainment designation, depending on the severity of an area's nonattainment status. For example, the $O_3$ nonattainment designation has seven subclasses: basic, transitional, marginal, moderate, serious, severe 15, severe 17, and extreme. Under the 1977 CAA

amendments, states (or areas within states) with ambient air quality concentrations that do not achieve the NAAQS are required to develop and maintain state implementation plans (SIPs). These plans constitute a federally enforceable definition of the State's approach and schedule for the attainment of the NAAQS.

Areas that were designated as nonattainment in the past but have since achieved the NAAQS are re-designated by USEPA as attainment-maintenance areas. The maintenance classification remains in effect for 20 years from the date when the area is determined by USEPA to meet the NAAQS. States must obtain USEPA approval of maintenance plans to ensure continued attainment over these 20 year time frames. Areas that lack monitoring data are designated as unclassified areas. Unclassified areas are treated as attainment areas for regulatory purposes.

## 7.2 State Regulatory Framework

Air quality in California is regulated by the California Air Resources Board (ARB) and local air quality management and air pollution control districts. Local air districts are primarily responsible for regulating stationary and indirect source emissions and for monitoring ambient pollutant concentrations. This section briefly describes the California Ambient Air Quality Standards (CAAQS), State designations of air basins for the CAAQS, and preparation of SIPs and Air Quality Management Plans (AQMPs) for attainment and maintenance of national and California air quality standards. The section also outlines California air toxics and mobile source emission control programs. The State programs for greenhouse gases and climate change are discussed in Section 22 of this EIR, Climate Change and Greenhouse Gas Emissions.

### *7.2.1 California Ambient Air Quality Standards and State Air Quality Designations*

ARB administers air quality policy in California and oversees programs to achieve the CAAQS (ARB 2010b). These standards, which are included with the NAAQS in Table D-4, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particles, hydrogen sulfide, vinyl chloride, and sulfates (ARB 2010a). The CAAQS apply to the entire State of California. The California Clean Air Act (CCAA) requires local air districts in nonattainment areas of the State to prepare and maintain AQMPs to achieve compliance with CAAQS. These AQMPs also serve as the basis for preparing the SIP for the State of California, which must ultimately be approved by USEPA and codified in the CFR (ARB 2009a).

ARB establishes policy and statewide standards and administers the State's mobile-source emissions control program, which is described below. In addition, ARB oversees air quality programs established by State statute.

### *7.2.2 State Implementation Plans*

The ARB compiles new and previously submitted plans, programs (such as monitoring, modeling, and permitting), district rules, State regulations, and federal control requirements into the SIP. Many of California's air quality plans rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel standards and requirements, and limits on emissions from consumer products. State law establishes ARB as the lead agency for all purposes related to the SIP. Local air districts and other agencies, such as the Bureau of Automotive Repair, prepare SIP elements and submit them to ARB for review and approval. The ARB forwards SIP revisions to USEPA for approval and publication in the Federal Register. The promulgation of the lower national eight-hour $O_3$ standard and $PM_{2.5}$ standards has resulted in additional statewide air quality planning efforts. The California Regional Haze Plan has been adopted to reduce regional haze and improve visibility in national parks and wilderness areas (ARB 2009b). Many additional California SIP submittals are pending USEPA approval (ARB 2010c).

In addition to the SIPs aimed at attainment of the NAAQS, the CCAA of 1988 requires nonattainment areas to achieve and maintain the CAAQS by the earliest practicable date (ARB 2010c). The CCAA

requires that, by the end of 1994 and once every 3 years thereafter, the local air districts are to assess their progress toward attaining the air quality standards (California Health & Saf. Code 40924). The triennial assessment is to report the extent of air quality improvement and the amounts of emission reductions achieved from control measures for the preceding 3-year period. The districts must review and revise their attainment plans, if necessary, to correct for deficiencies in meeting progress, incorporate new data or projections, mitigate $O_3$ transport, and expedite adoption of all feasible control measures

### *7.2.3 Air Toxics Program*

In addition to the criteria pollutants, concern about non-criteria pollutants, or Toxic Air Contaminants (TACs) and Hazardous Air Pollutants, has increased in recent years. The California Air Toxics Program establishes the process for identifying and controlling toxic air contaminants and includes provisions for public awareness and risk reduction (ARB 2010d). Local agencies, such as air districts, are responsible for evaluating and controlling TAC emissions, especially when these emissions are released from projects near sensitive receptors. For example, AB 3205 (Health & Saf. Code 42301.6 through 42301.9) requires that new or modified sources of TACs near schools provide public notice to the parents of school children before a permit to emit air pollutants is issued.

TACs are of particular concern in locations where exposures to sensitive receptors may occur. A sensitive receptor is generally defined as a location where human populations (especially children, seniors, or sick persons) are found, and there is reasonable expectation of human exposure to air pollutants of concern. Examples of sensitive receptors include residences, hospitals, day-care centers, and schools.

### *7.2.4 Air Toxics "Hot Spots" Information and Assessment Act*

California enacted the Air Toxics "Hot Spots" Information and Assessment Act in 1987 (AB 2588). The Act establishes a formal air toxics emission inventory and risk quantification program, which is managed by California air districts.

The program goals include:

- collection of data on the emission of toxic air contaminants
- identification of facilities having localized impacts
- health risk assessment
- public notification on health risks
- reduction of the risks of "significant-risk facilities" below the level of significance.

The Act requires:

- facilities to report of types and quantities of certain toxic substances routinely or predictably emitted;
- air districts to determine whether or not a health risk assessment must be conducted for the facility;
- that health risk assessments be conducted according to methods developed by the Office of Environmental Health Hazard Assessment (OEHHA);
- that the public be notified of significant risks posed by nearby facilities, and;
- facilities posing significant risks to prepare and implement risk reduction audits and plans within 6 months of the determination.

The Air Toxics "Hot Spots" Act requires the Air Resources Board to compile and maintain a list of substances posing chronic or acute health threats when present in the air. The Act currently identifies by reference over 600 substances which are required to be subject to the program.

### 7.2.5 Mobile Source Emission Control Programs

The ARB is responsible for developing statewide programs and strategies to reduce the emission of smog-forming pollutants and TACs by mobile sources. To attain the CAAQS, the CCAA mandates that the ARB achieve the maximum degree of emission reductions from all on- and off-road mobile sources. On-road sources include passenger cars, motorcycles, trucks, and buses; off-road sources include heavy-duty construction equipment, recreational vehicles, marine vessels, lawn and garden equipment, and small utility engines (ARB 2010e).

On- and off-road vehicle emission control programs overseen by ARB include state fuel specifications, vehicle inspections, idling restrictions, regulations to require clean vehicle fleets, voluntary vehicle retirement programs, and engine emissions standards. ARB has extensive statewide programs underway to reduce particulate emissions from diesel-fueled engines, also known as diesel PM. Compliance with the vehicle emissions control programs, especially during construction, will be necessary for projects developed under the Delta Plan.

### 7.2.6 Odor Emissions

Odorous emissions can result from sources such as wastewater treatment plants, landfills, chemical plants, decaying material in waterlogged areas, anaerobic decomposition of organic materials, and agricultural sources such as dairy and poultry farms, pesticide, fertilizer, and herbicide application, and rendering plants. Local air districts typically regulate odor sources under their nuisance regulations, and base the level of significance of odors on the number of complaints they receive.

## 7.3 Local Regulatory Framework

In California, air districts have been established to oversee the attainment of air quality standards within air basins as defined by the State. Each local air district has developed its own program and regulations to attain and maintain air quality standards, while integrating Federal and State requirements. The local air districts have permitting authority over stationary sources of air pollutants within the district boundaries and provide review of environmental documents prepared for projects with air quality issues. In many cases, the local air districts have established CEQA guidelines and significance thresholds for evaluation of air-quality related impacts.

For each county in the study area, Table D-5 lists the air basins and the local air district, as well as the air basin's attainment status for the Federal and State ambient air quality standards (NAAQS and CAAQS, respectively).

Table D-5
Pollutants Designated as Nonattainment Pursuant to NAAQS and CAAQS for Counties in the Study Area

| County | Air Basin | Air District | Federal Nonattainment Designations – NAAQS | State Nonattainment Designations – CAAQS |
|---|---|---|---|---|
| Primary Planning Area: | | | | |
| Sacramento | Sacramento Valley | Sacramento Metro | Ozone, $PM_{10}$, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Yolo | Sacramento Valley | Yolo-Solano | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$ |
| Solano | Sacramento Valley and San Francisco Bay Area | Yolo-Solano and Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| San Joaquin | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Contra Costa | San Francisco Bay Area | Bay Area | Ozone,$PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |

Table D-5
Pollutants Designated as Nonattainment Pursuant to NAAQS and CAAQS for Counties in the Study Area

| County | Air Basin | Air District | Federal Nonattainment Designations – NAAQS | State Nonattainment Designations – CAAQS |
|---|---|---|---|---|
| Alameda | San Francisco Bay Area | Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| **Delta Watershed Area:** | | | | |
| Alpine | Great Basin Valleys | Great Basin Unified | — | $PM_{10}$ |
| Amador | Mountain Counties | Amador | Ozone | Ozone, $H_2S$ (in the City of Sutter Creek) |
| Butte | Sacramento Valley | Butte | Ozone and $PM_{2.5}$ in Chico | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Calaveras | Mountain Counties | Calaveras | Ozone | Ozone, $PM_{10}$ |
| Colusa | Sacramento Valley | Colusa | — | Ozone, $PM_{10}$ |
| El Dorado | Lake Tahoe and Mountain Counties | El Dorado | Ozone and $PM_{2.5}$ | Ozone, $PM_{10}$ |
| Fresno | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Glenn | Sacramento Valley | Glenn | — | Ozone, $PM_{10}$ |
| Humboldt | North Coast | North Coast Unified | — | $PM_{10}$ |
| Inyo | Great Basin Valleys | Great Basin Unified | $PM_{10}$ (Owens Valley) | Ozone, $PM_{10}$ |
| Lake | Lake County | | — | — |
| Lassen | Northeast Plateau | Lassen | — | $PM_{10}$ |
| Madera | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Mariposa | Mountain Counties | Mariposa | Ozone | Ozone |
| Mendocino | North Coast | North Coast Unified | — | $PM_{10}$ |
| Merced | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Modoc | Northeast Plateau | Modoc | — | $PM_{10}$ |
| Mono | Great Basin Valleys | Great Basin Unified | $PM_{10}$ (Mono Basin) | Ozone, $PM_{10}$ |
| Napa | San Francisco Bay Area | Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Nevada | Mountain Counties | Northern Sierra | Ozone | Ozone, $PM_{10}$ |
| Placer | Sacramento Valley, Lake Tahoe and Mountain Counties | Placer | Ozone and $PM_{2.5}$ in Sacramento Metro | Ozone, $PM_{10}$ |
| Plumas | Mountain Counties | Northern Sierra | — | $PM_{10}$ ($PM_{2.5}$ in Portola Valley) |
| Riverside | Salton Sea, South Coast, and Mojave Desert | South Coast and Mojave Desert | Ozone, $PM_{10}$, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$, $NO_2$ (portion in South Coast) |
| Sacramento | Sacramento Valley | Sacramento Metro | Ozone, $PM_{10}$, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| San Benito | North Central Coast | Monterey Bay Unified | — | Ozone, $PM_{10}$ |

Table D-5
Pollutants Designated as Nonattainment Pursuant to NAAQS and CAAQS for Counties in the Study Area

| County | Air Basin | Air District | Federal Nonattainment Designations – NAAQS | State Nonattainment Designations – CAAQS |
|---|---|---|---|---|
| San Joaquin | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Santa Clara | San Francisco Bay Area | Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Shasta | Sacramento Valley | Shasta | — | Ozone, $PM_{10}$ |
| Sierra | Mountain Counties | Northern Sierra | — | $PM_{10}$, |
| Siskiyou | Northeast Plateau | Siskiyou County | — | Ozone (transitional) |
| Solano | Sacramento Valley and San Francisco Bay Area | Yolo-Solano and Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Sonoma | North Coast and San Francisco Bay | Northern Sonoma County and Bay Area | Ozone and $PM_{2.5}$ in Francisco Bay | Ozone, $PM_{10}$, and $PM_{2.5}$ in San Francisco Bay |
| Stanislaus | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Sutter | Sacramento Valley | Feather River | Ozone (Sutter Buttes), $PM_{2.5}$ | Ozone (transitional), $PM_{10}$ |
| Tehama | Sacramento Valley | Tehama | — | Ozone, $PM_{10}$ |
| Trinity | North Coast | North Coast Unified | — | $PM_{10}$ |
| Tuolumne | Mountain Counties | Tuolumne | Ozone | Ozone |
| Yolo | Sacramento Valley | Yolo-Solano | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$ |
| Yuba | Sacramento Valley | Feather River | $PM_{2.5}$ | Ozone, $PM_{10}$ |
| **Areas Outside the Delta That Use Delta Water:** | | | | |
| Kern | San Joaquin Valley and Mojave Desert | San Joaquin Valley and Eastern Kern | Ozone, $PM_{2.5}$, ($PM_{10}$ in East Kern) | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Kings | San Joaquin Valley | San Joaquin Valley | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Los Angeles | South Coast and Mojave Desert | South Coast and Antelope Valley | Ozone, $PM_{10}$, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$, $NO_2$, Pb |
| Monterey | North Central Coast | Monterey Bay Unified | | Ozone, $PM_{10}$ |
| Orange | South Coast | South Coast | Ozone, $PM_{10}$, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$, $NO_2$ |
| San Bernardino | Mojave Desert and South Coast | South Coast and Mojave Desert | Ozone, $PM_{10}$, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$, $H_2S$ in Searles Valley |
| San Diego | San Diego | San Diego | Ozone in San Diego | Ozone, $PM_{10}$, $PM_{2.5}$ |
| San Francisco | San Francisco Bay Area | Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| San Luis Obispo | South Central Coast | San Luis Obispo | — | Ozone, $PM_{10}$ |
| San Mateo | San Francisco Bay Area | Bay Area | Ozone, $PM_{2.5}$ | Ozone, $PM_{2.5}$ |
| Santa Barbara | South Central Coast | Santa Barbara | — | Ozone, $PM_{10}$ |
| Santa Cruz | North Central Coast | Monterey Bay Unified | — | Ozone, $PM_{10}$ |

Table D-5
Pollutants Designated as Nonattainment Pursuant to NAAQS and CAAQS for Counties in the Study Area

| County | Air Basin | Air District | Federal Nonattainment Designations – NAAQS | State Nonattainment Designations – CAAQS |
|---|---|---|---|---|
| Tulare | San Joaquin Valley | San Joaquin Valley Unified | Ozone, $PM_{2.5}$ | Ozone, $PM_{10}$, $PM_{2.5}$ |
| Ventura | South Central Coast | Ventura | Ozone | Ozone, $PM_{10}$, $PM_{2.5}$ |

Source: ARB, 2009c; USEPA 2010.

The primary planning area (Delta and Suisun Marsh) includes portions of four air districts: the Sacramento Metropolitan Air Quality Management District (SMAQMD), the Yolo-Solano Air Quality Management District (YSAQMD), the San Joaquin Valley Unified Air Quality Management District (SJVAQMD), and the Bay Area Air Quality Management District (BAAQMD). This section describes applicable local air district rules and regulations, regional SIP and AQMP submittals, CEQA guidance documents, and air quality elements of general plans for counties and cities in the primary study planning area, i.e., Sacramento, Yolo, Solano, San Joaquin, Contra Costa, and Alameda counties. Counties and cities may include air quality elements with broad goals in their general plans, but authority for permitting and regulating construction and operation of stationary and indirect air pollution sources resides with the local air district. As shown in Table D-5, most of these counties are designated as nonattainment for the Federal and/or State $O_3$ and particulate matter standards. The pollutants, NOx and reactive organic gases, are precursors to ozone formation. Therefore, in these counties, the air-quality related policies, strategies, and actions focus on minimizing NOx, reactive organic gases, $PM_{10}$, and $PM_{2.5}$ emissions.

### *7.3.1 Sacramento Metropolitan Air Quality Management District*

In Sacramento County, SMAQMD rules and regulations include regulations for demonstration of general conformity (Rule 104), avoidance of nuisance conditions (Rule 402), fugitive-dust control (Rule 403), and prohibitions on open burning (Rule 407) (SMAQMD 2011). Rule 403 requires reasonable precautions to control fugitive dust from construction, material handling or storage activities, excavation, grading, land clearing, and solid waste disposal operations. One of the listed reasonable precautions to control dust is application/use of water (SMAQMD 1977).

To comply with the CCA, SMAQMD has prepared plans for the nonattainment pollutants ozone and $PM_{10}$. The 2009 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan documents that the region is meeting requirements for the 1997 8-hour ozone standard (SMAQMD 2008). In May 2010, USEPA reclassified the Sacramento Federal Nonattainment Area from a "serious" to a "severe" 8-hour ozone nonattainment area which extended the attainment deadline from 2013 to 2019. In October 2010, the SMAQMD adopted the $PM_{10}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento County (SMAQMD 2010a). The redesignation request has been submitted to USEPA for review. In 2006, the USEPA promulgated a lower 24-hour standard for $PM_{2.5}$ to protect the general public from short-term exposure. Sacramento does not meet the $PM_{2.5}$ standard so an attainment plan must be submitted by November 7, 2012 (SMAQMD 2010b).

To comply with the CCAA, SMAQMD has prepared triennial progress reports and annual progress reports to describe trends in air quality, update emissions inventories, and evaluate control measure options, implementation, and effectiveness for ozone and $PM_{10}$. In 2010, SMAQMD finalized the 2009 Triennial Report and Plan Revision and the 2009 Annual Progress Report (SMAQMD 2009a and SMAQMD 2010c).

The SMAQMD *CEQA Guide to Air Quality Assessment* provides methods to review air quality impacts from construction and operation of projects, screening approaches, methods for calculating emissions, and mitigation measures (SMAQMD 2009b). Recommendations for evaluation of both project-level and program-level analyses are included in the guide.

The Sacramento County 2030 General Plan Update, Air Quality Element, focuses the General Plan policies relating to air quality through integrating policies of land use, circulation, and community design (Sacramento County, 2009). On March 3, 2009, the City of Sacramento City Council adopted the 2030 General Plan with a focus on smart growth. The vision of the plan is that Sacramento will be the most livable city in America and sustainability is one of the guiding principles.

### *7.3.2 Yolo-Solano Air Quality Management District*

In Yolo and northern Solano counties, YSAQMD rules and regulations address avoidance of nuisance conditions (Rule 2.5), open burning (Rule 2.8), and demonstration of general conformity (Rule 10.3) (ARB 2010f). To comply with the CAA, YSAQMD worked with SMAQMD to develop the 2009 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (SMAQMD 2008). In addition, to comply with the CCAA, the YSAQMD prepared the 1992 Air Quality Attainment Plan, and adopted periodic updates, to make progress toward attaining the State $O_3$ standard. The plan and updates contain implementation schedules for control programs on stationary sources, transportation, and indirect sources and a vehicle/fuels program. The most recent Triennial Assessment and Plan Update was issued in May 2010 (YSAQMD 2010).

In addition to being designated as a nonattainment area for $O_3$, the YSAQMD is also designated as a nonattainment area for the $PM_{10}$ CAAQS. While the YSAQMD is not required to prepare a $PM_{10}$ attainment plan, the agency is required to list PM control measures it considers cost effective and develop a schedule for implementing those measures. Portions of Yolo and Solano counties also do not attain the $PM_{2.5}$ NAAQS. The entire portion of Solano County within the YSAQMD jurisdictional area and the eastern portion of the Yolo County have been designated as a nonattainment area. YSAQMD is currently developing an attainment plan for $PM_{2.5}$, to meet an attainment deadline of December 2014 (YSAQMD 2009).

The YSAQMD *Handbook for Assessing and Mitigating Air Quality Impacts* provides guidance on how to assess and mitigate construction and operation related impacts to air quality (YSAQMD 2007).

The Solano County General Plan includes air quality policies in the Public Health and Safety section. The plan includes policies to support land use, transportation management, and infrastructure and environmental planning programs that reduce vehicle emissions and improve air quality, promote consistency and cooperation in air quality planning efforts, and coordinate with and provide incentives to agricultural producers to minimize the impacts of operations on air quality (Solano County, 2008).

On November 10, 2009, the Yolo County Board of Supervisors adopted the 2030 Countywide General Plan (Yolo County 2009). The 2030 Countywide General Plan includes air quality policies to meet the goal of improving air quality to reduce the health effects caused by harmful emissions. These policies include supporting local and regional air quality planning efforts, improving air quality through land use planning, encouraging Best Management Practices to reduce emissions and control fugitive dust during construction, and encouraging community participation in air quality planning. The plan also includes a list of objectives to secure against the potentially adverse effects of climate change including the integration of Greenhouse Gas reduction in all aspects of county operations and activities (Yolo County 2009, pp VI-10).

### 7.3.3 San Joaquin Valley Air Pollution Control District

In San Joaquin County, SJVAPCD rules and regulations address avoidance of nuisance conditions (Rule 4102), prohibitions on opening burning (Rule 4103), demonstration of general conformity (Rule 9110), indirect source review (Rule 9510), and fugitive-dust control (Regulation VIII) (SJVAPCD 2010a). Specifically, the SJVAPCD dust-control rules include Rule 8021 for control of $PM_{10}$ from construction, demolition, excavation, extraction, and other earth moving activities; Rule 8031 for control of $PM_{10}$ from handling and storage of bulk materials; Rule 8051 for control of $PM_{10}$ from disturbed open areas; Rule 8061 for control of $PM_{10}$ from travel on paved and unpaved roads; and Rule 8071 for control of $PM_{10}$ from vehicle and equipment parking, shipping receiving, transfer, fueling, and service areas. Each of these rules requires fugitive dust control, through measures that include the application of water, gravel, or chemical dust stabilizers (SJVAPCD 2004a, 2004b, 2004c, 2004d, 2004e).

On September 25, 2008, the USEPA redesignated the San Joaquin Valley as an attainment area for the $PM_{10}$ NAAQS and approved the $PM_{10}$ Maintenance Plan (SJVAPCD 2008a). On April 30, 2008, the SJVAPCD Board adopted the 2008 $PM_{2.5}$ Plan, which targets attainment of the federal and State $PM_{2.5}$ standards as expeditiously as possible (SJVAPCD 2008b).

The SJVAPCD Governing Board adopted the 2007 Ozone Plan on April 30, 2007 (SJVAPCD 2007). On December 18, 2008, the District Governing Board adopted the "Amendment to the 2007 Ozone Plan to Extend the Rule Adoption Schedule for Organic Waste Operations." This amendment extended the control measure completion date for composting green waste to allow time for further study before rule adoption (SJVAPCD 2010c).

The SJVAPCD is in the process of updating their CEQA guidance (SJVAPCD 2010b). The *Guide for Assessing and Mitigating Air Quality Impacts* includes significance thresholds for construction and operation of projects and plans (SJVAPCD 2002). Additionally, SJVAPCD has developed *Air Quality Guidelines for General Plans* (SJVAPCD 2005). In this document, SJVAPCD focuses on reducing use of vehicles and other policies that would result in improved air quality.

The San Joaquin County 1992 General Plan objective for air quality is to protect public health, agricultural crops, scenic resources, and the built and natural environments from air pollution (San Joaquin County 1992, Chapter VI, pp. VI-22). The following policies were developed to achieve this objective: the County shall meet and maintain federal and State air quality standards, motor vehicle emissions shall be minimized through land use and transportation strategies, projects shall be designated to minimize CO concentrations, air quality hazards from pesticides shall be minimized, and elimination of chlorofluorocarbons will be supported (San Joaquin County 1992, Chapter VI, pp. VI-22). In June 2008, San Joaquin County began the 36-month process of updating the 1992 General Plan (San Joaquin County 2008).

### 7.3.4 Bay Area Air Quality Management District

BAAQMD regulations cover permitting of stationary sources (Regulation 2), open burning (Regulation 5), and limitations on odorous substances (Regulation 7) (BAAQMD 2010a).

On September 15, 2010 the BAAQMD board of directors adopted the Bay Area 2010 Clean Air Plan (BAAQMD 2010b). The Clean Air Plan: (1) updates the 2005 Ozone Strategy, (2) considers the impacts of ozone control measures on other pollutants (PM, air toxics, and greenhouse gases), (3) reviews progress in improving air quality in recent years, and (4) identifies emission control measures to be adopted or implemented in the 2010-2012 time frame.

On October 8, 2009, the USEPA designated the Bay Area as a nonattainment area for the 24-hour $PM_{2.5}$ standard. The BAAQMD is required to submit an attainment plan to USEPA by December 14, 2012, and must demonstrate attainment of the $PM_{2.5}$ standard by December 14, 2014 (BAAQMD 2010c).

In 2010, BAAQMD updated the CEQA guidelines that recommend air quality significance thresholds, analytical methodologies and mitigation measures for use when preparing air quality impact analyses under CEQA to include significance thresholds (BAAQMD 2010d). The guidelines address both project-level and plan-level impacts from construction and operation activities (BAAQMD 2010d).

In addition to air quality-related programs implemented by the BAAQMD, the Alameda County General Plan is a roadmap for achieving the county's desired quality of life, and includes an air quality element (Alameda County 1994). The Contra Costa County Plan has the following four goals related to air quality: meet federal standards for all pollutants; continue to support Federal, State, and regional efforts to reduce air pollution to protect human and environmental health; restore air quality to a more healthful level; and reduce the percentage of average daily trips occurring at peak hours (Contra Costa County 2005).

# 8.0 Cultural Resources Regulatory Framework

At the federal level, section 106 of the National Historic Preservation Act (NHPA) and other federal statutes place duties on federal agencies to manage impacts on cultural resources. The State of California regulates impacts on cultural resources through the CEQA, the California Health & Saf. Code, and the California Pub. Saf. Code. At the local level, cultural resources are managed under county and city general plans in compliance with State requirements.

## 8.1 Federal Regulatory Framework

### *8.1.1 Antiquities Act of 1906*

The Antiquities Act of 1906 (16 USC sections 431–433) protects cultural resources under the jurisdiction of the federal government. The act provides fines or imprisonment of any person convicted of appropriating, excavating, injuring, or destroying any historic or prehistoric ruin or monument or other object of antiquity under the control or management of the federal government.

### *8.1.2 Section 106 of the National Historic Preservation Act of 1966*

Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) require federal agencies to consider the effects of their undertakings on cultural resources that are or that may be eligible for listing in the National Register of Historic Places (NRHP). The NRHP criteria at 36 CFR Part 60.4 describe the standards used to evaluate cultural resources for inclusion in the NRHP. Cultural resources may be significant on a national, State, or local level. To be eligible for NRHP listing, cultural resources must retain integrity and must exhibit an association with broad patterns of our history, be associated with an important person, embody a distinctive characteristic, or yield information important to prehistory or history.

The NRHP is a register maintained by the Secretary of the Interior. The register lists districts, sites, buildings, structures and objects of significance in American history, architecture, archaeology, engineering and culture. A property may be listed in the NRHP if it meets criteria for evaluation defined in 36 CFR Part 60.4:

> *The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:*
>
> *(A) That are associated with events that have made a significant contribution to the broad patterns of our history; or*

*(B) That are associated with the lives of persons significant in our past; or*

*(C) That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess artistic value, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*

*(D) That have yielded, or may be likely to yield, information important in prehistory or history.*

The section 106 regulations require consultation with the State Historic Preservation Officer, Indian tribes, and interested members of the public throughout the process by using the following four principal steps:

1. Initiate the section 106 process (36 CFR Part 800.3) by identifying the undertaking, consulting parties, and coordinating with other reviews, such as reviews related to the NEPA.
2. Identify the area of potential effects (APE) and historic properties in the APE (36 CFR Part 800.4).
3. Assess the impact of the undertaking on historic properties in the APE and make a finding of effect (36 CFR Part 800.5).
4. Resolve adverse effects (36 CFR Part 800.6).

Adverse effects on historic properties often are resolved through preparation of a Memorandum of Agreement or a Programmatic Agreement developed in consultation between the lead federal agency, the State Historic Preservation Officer, Indian tribes, and interested members of the public. The Advisory Council on Historic Preservation is also invited to participate. The Memorandum of Agreement or Programmatic Agreement memorializes, in a narrative fashion, the steps or "stipulations" that the parties agree to implement in order to reduce adverse effects. The substance of the treatment methods or other measures used to reduce or avoid adverse effects is typically defined in attached documents.

### *8.1.3 American Indian Religious Freedom Act*

The American Indian Religious Freedom Act of 1978 protects the rights of Native Americans to freedom of expression of traditional religions (24 USC section 1996). This act established "the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions…including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites."

### *8.1.4 Native American Graves Protection and Repatriation Act*

The Native American Graves Protection and Repatriation Act provides for increased involvement of Native Americans in archaeology and historic preservation. The Native American Graves Protection and Repatriation Act addresses the rights of lineal descendants and Indian tribes to recover Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony that are held by the federal government (25 USC section 3001). These parties are to be consulted when such items are inadvertently discovered or intentionally excavated on federal or tribal lands.

## 8.2 State Regulatory Framework

### *8.2.1 California Environmental Quality Act Statute and Guidelines*

CEQA and the State CEQA Guidelines include special procedures for identifying, analyzing, and disclosing significant impacts on cultural resources, which include all resources listed in or formally

determined eligible for listing in the NRHP, the California Register of Historical Resources (CRHR), or local registers.

CEQA requires the lead agency to consider the effects of a project on archaeological resources and to determine whether any identified archaeological resource is a historical resource (i.e., if the archaeological resource meets the criteria for listing in the CRHR) (State CEQA Guidelines sections 15064.5(a)(1) and (3) and 15064.5(c)(1) and (2)).

A prehistoric archaeological resource that qualifies as a historical resource under CEQA generally qualifies for listing under Criterion 4 of the CRHR (State CEQA Guidelines section 15064.5(a)(3)(D)) (National Register Criterion D). An archaeological resource may qualify for listing under Criterion 4 when it can be demonstrated that the resource has the potential to significantly contribute to questions of scientific or historical importance.

Archaeological resources that are not historical resources according to the definitions provided above may be "unique archaeological resources," as defined in Pub. Resources Code section 21083.2. Impacts on unique archaeological resources are also analyzed under CEQA. A unique archaeological resource is a resource that meets any of the following criteria:

- The resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- The resource has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- The resource is directly associated with a scientifically recognized important prehistoric or historic event or person (Pub. Resources Code section 21083.2(g)).

If an archaeological resource is neither a unique archaeological resource nor a historical resource, the effects of a project on those resources are not considered significant.

CEQA defines a historical resource as a resource that meets one or more of the following criteria:

- A resource determined to be eligible for listing in or listed in the NRHP or CRHR.
- A resource included in a local register of historical resources, as defined in Pub. Resources Code section 5020.1(k), unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant.
- A resource identified as significant (e.g., rated 1–5) in a historical resource survey meeting the requirements of Pub. Resources Code section 5024.1(g) (California Department of Parks and Recreation Form 523), unless the preponderance of evidence demonstrates that the resource is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered "historically significant" if it meets the criteria for listing in the CRHR (State CEQA Guidelines section 15064.5).
- A resource that is determined by a local agency to be historically or culturally significant even though it does not meet the other four criteria listed here (e.g., Articles 10 and 11 of the San Francisco Planning Code).

According to the State CEQA Guidelines (section 15064.5(a)(3)), a resource is considered historically significant if it meets the criteria for listing in the CRHR (Pub. Resources Code section 5024.1, 14 Cal. Code Regs. section 4852). A historical resource is defined as any site that meets any of the following criteria:

- is listed in or determined to be eligible by the State Historical Resources Commission for listing in the CRHR, or is determined to be significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California;
- is eligible for listing in the CRHR (criteria noted above); or
- is included in a local register of historical resources, as defined by Pub. Resources Code section 5020.1(k), or is identified as significant in a historical resource survey meeting the requirements of Pub. Resources Code section 5024.l(g).

Section 15064.5(b) of the State CEQA Guidelines states that "a project with an effect that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." The section also provides standards for determining what constitutes a "substantial adverse change" on archaeological or historical resources, including physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired (State CEQA Guidelines section 15064.5(b)(1)). The significance of a historical resource is considered to be materially impaired when a project demolishes or materially alters in an adverse manner those characteristics that convey its historical significance and that justify its inclusion on a historical resource list (State CEQA Guidelines 15064.5(b)(2)).

### *8.2.2 California Register of Historical Resources*

The CRHR includes resources that are listed in or formally determined eligible for listing in the NRHP and some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (Pub. Resources Code section 5024.1, 14 Cal. Code Regs. section 4850). The eligibility criteria for listing in the CRHR are similar to those for NRHP listing but focus on the relevance of the resources to California history and heritage. A cultural resource may be eligible for listing in the CRHR if it has significance under one or more of the following criteria:

- It is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States.
- It is associated with the lives of persons important to local, California, or national history.
- It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
- It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

To be eligible, a resource must also have integrity. The CRHR definition of "integrity" is slightly different from that for the NRHP. Integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance" (Office of Historic Preservation 2002, p. 3). The Office of Historic Preservation guidance further states that eligible resources must "retain enough of their historic character or appearance to be

recognizable as historical resources and to convey the reasons for their significance" and lists the same seven aspects of integrity used for evaluating properties under the NRHP criteria. The CRHR's special considerations for certain property types are limited to: (1) moved buildings, structures, or objects; (2) historical resources achieving significance within the past 50 years; and (3) reconstructed buildings (14 Cal. Code Regs. section 4852).

### *8.2.3 Native American Heritage Commission*

The Native American Heritage Commission (NAHC) identifies and manages a catalog of places of special religious or social significance to Native Americans. This database, known as the Sacred Lands File, is a compilation of information on known graves and cemeteries of Native Americans on private lands and other places of cultural or religious significance to the Native American community. The NAHC also performs other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items.

Pub. Resources Code sections 5097.9 through 5097.991 describe the duties and role of the NAHC and requires cooperation of State and local agencies in carrying out their duties with respect to Native American resources.

### *8.2.4 California Public Resources Code and California Health and Safety Code Provisions Regarding Human Remains*

When human remains are discovered outside of a cemetery, the relevant county coroner determines whether an investigation of the cause of death is required. When the coroner determines that the remains are of prehistoric Native American origin, he or she contacts the NAHC (Health & Saf. Code section 7050.5(b) and (c)).

When the NAHC receives notification of a discovery of Native American human remains from a county coroner, it notifies those persons it believes to be most likely descended from the deceased Native American. The descendents may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendents must complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site.

Upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section, with the most likely descendents regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner must discuss and confer with the descendents on all reasonable options regarding the descendants' preferences for treatment.

## 8.3 Local Regulatory Framework

Many of the counties and cities encompassing lands in the Delta and the Suisun Marsh have developed policies and goals intended to document and preserve cultural resources in their areas, focusing and at times strengthening the regulations spelled out under CEQA or supporting preservation efforts in non-CEQA settings. These general plans specify locally proposed goals or objectives and policies intended to enforce them. Although many policies mirror those required under CEQA and codify them in these city or county general plans, some go beyond CEQA and require the consideration of development impacts under nondiscretionary projects in their jurisdictions.

## *8.3.1 Sacramento County*

### 8.3.1.1 Sacramento County General Plan

The *Sacramento County General Plan* was adopted on December 15, 1993. Since 1993, several of the separate general plan elements have been revised, including the Conservation Element (revised as of August 29, 2007), which addresses the protection of cultural resources. The following objective and policies from the Conservation Element are applicable to the project alternatives (Sacramento County 1993, pp. 106–108):

- **Objective:** Attention and care during project review and construction to ensure that cultural resource sites, either previously known or discovered on the project site, are properly protected with sensitivity to cultural and ethnic values of all affected.
- **Policy CO-157:** Significant archaeological, prehistoric, or historic sites shall be protected as open space for potential future excavation.
- **Policy CO-158:** Native American burial sites encountered during preapproved survey or during construction shall, whenever possible, remain in situ. Excavation and reburial shall occur when in situ preservation is not possible or when the archaeological significance of the site merits excavation and recording procedure. Onsite reinterment shall have priority. The project developer shall provide the burden of proof that off site reinterment is the only feasible alternative. Reinterment shall be the responsibility of local tribal representatives.
- **Policy CO-160:** Monitor projects during construction to ensure crews follow proper reporting, safeguards, and procedures.
- **Policy CO-161:** As a condition of approval of discretionary permits, a procedure shall be included to cover the potential discovery of archaeological resources during development or construction.
- **Policy CO-162:** As a condition of approval for discretionary projects which are in areas of cultural resource sensitivity, the following procedure shall be included to cover the potential discovery of archaeological resource during development or construction:

  *Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the Sacramento County Department of Environmental Review and Assessment shall be immediately notified. At that time, the Department of Environmental Review and Assessment will coordinate any necessary investigation of the site with appropriate specialists, as needed. The project proponent shall be required to implement any mitigation deemed necessary for the protection of the cultural resources. In addition, pursuant to Section 5097.98 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission [NAHC] shall be adhered to in the treatment and disposition of the remains.*

### 8.3.1.2 City of Sacramento General Plan

The *City of Sacramento 2030 General Plan* was adopted on March 3, 2009. The revised Historic and Cultural Resources Element of the general plan addresses the preservation of historic and cultural resources and adaptive reuse of historic structures. The following goal and policies from the Historic and

Cultural Resources Element are applicable to the project alternatives (City of Sacramento 2009, pp. 2-135, 2-137):

- **Goal HCR 2.1, Identification and Preservation of Historic and Cultural Resources:** Identify and preserve the City's historic and cultural resources to enrich our sense of place and our understanding of the City's prehistory and history.
- **Policy HCR 2.1.2, Applicable Laws and Regulations:** The City shall ensure that City, State, and Federal historic preservation laws, regulations, and codes are implemented, including the California Historical Building Code and State laws related to archaeological resources, to ensure the adequate protection of these resources.
- **Policy HCR 2.1.3, Consultation:** The City shall consult with the appropriate organizations and individuals (e.g., Information Centers of the CHRIS [California Historical Resources Information System], the Native American Heritage Commission, and Native American groups and individuals) to minimize potential impacts to historic and cultural resources.
- **Policy HCR 2.1.15, Archaeological Resources:** The City shall develop or ensure compliance with protocols that protect or mitigate impacts to archaeological, historic, and cultural resources including prehistoric resources.

#### 8.3.1.3 City of Elk Grove General Plan

The *City of Elk Grove General Plan* was adopted on November 19, 2003. The current Historic Resources Element of the general plan reflects amendments through July 22, 2009, and addresses the preservation of historic and cultural resources. The following policies from the Historic and Cultural Resources Element are applicable to the project alternatives (City of Elk Grove 2003, pp. 66–67):

- **Policy HR-1:** Encourage the preservation and enhancement of existing historical and archaeological resources in the City.
- **Policy HR-2:** The City supports the goals and objectives for the *Comprehensive Statewide Historic Preservation Plan for California 2000–2005*.
- **Policy HR-3:** Encourage restoration, renovation, and/or rehabilitation of all historic structures.
- **Policy HR-4:** Support use of federal financial incentive programs to encourage preservation of historic structures.
- **Policy HR-6:** Protect and preserve prehistoric and historic archaeological resources throughout the City.

### *8.3.2 Yolo County*

#### 8.3.2.1 Yolo County General Plan

The *Yolo County General Plan* was adopted on November 10, 2009. The general plan integrates, by reference, locally effective parts of the Delta Protection Commission's *Land Use and Resource Management Plan for the Primary Zone of the Delta*, adopted on February 23, 1995.

The Conservation and Open Space Element of the general plan addresses the preservation of various resources in an open space environment. The following goal and policies from the general plan are applicable to the project alternatives (Yolo County 2009, pp. CO-55 and CO-56):

- **Goal CO-4, Cultural Resources:** Preserve and protect cultural resources within the County.
- **Policy CO-4.1:** Identify and safeguard important cultural resources.

- **Policy CO-4.12:** Work with culturally affiliated tribes to identify and appropriately address cultural resources and tribal sacred sites through the development review process.
- **Policy CO-4.13:** Avoid or mitigate to the maximum extent feasible the impacts of development on Native American archaeological and cultural resources.
- **Policy CO-4.14:** Within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable cultural resources policies of the Land Use and Resource Management Plan of the Delta Protection Commission.

#### 8.3.2.2 City of West Sacramento General Plan

The *City of West Sacramento General Plan Policy Document* was adopted on May 3, 1990. The current general plan policy document reflects amendments through December 8, 2004, and addresses the preservation of historic and cultural resources. The following goals and policies from the Recreational and Cultural Resources Element may be applicable to the project alternatives (City of West Sacramento 1990, pp. II-62 and II-63):

- **Goal F:** To preserve and enhance West Sacramento's historical heritage.
- **Policy 1:** The City shall set as a high priority the protection and enhancement of West Sacramento's historically and architecturally significant buildings.
- **Policy 2:** The City shall establish a historic district in the Old Broderick area and develop standards for preservation and rehabilitation of historic structures and compatible infill development.
- **Policy 3:** The City shall cooperate in the expansion and updating of the Yolo County Historical Resources Survey.
- **Policy 4:** The City shall work with property owners in seeking registration of historical structures and sites as State Historic Landmarks or listing on the National Register of Historic Sites.
- **Policy 5:** The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.
- **Policy 6:** Structures of historical, cultural, or architectural merit which are proposed for demolition shall be considered for relocation as a means of preservation. Relocation within the same neighborhood or to another compatible neighborhood shall be encouraged.
- **Policy 7:** New development near designated historic landmark structures and sites shall be designed to be compatible with the character of the designated historic resource.
- **Policy 8:** The City shall explore the possibility of establishing a city cultural center which might include a historical museum and an art gallery.
- **Policy 9:** The City shall consider developing and maintaining the Stone Lock as a point of historical interest.
- **Goal G:** To protect West Sacramento's Native American heritage.
- **Policy 1:** The City shall refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory, Northwest Information Center, at Sonoma State University.

- **Policy 2:** The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without first consulting the California Archaeological Inventory, Northwest Information Center, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendations of a qualified archaeologist. City implementation of this policy shall be guided by Appendix K of the State CEQA Guidelines.
- **Policy 3:** Archaeological sites shall be protected by means of requirements in development permits requiring on-site monitoring by qualified personnel of excavation work in areas identified as archaeologically-sensitive. Development work shall be required to cease in any place where artifacts or skeletal remains have been discovered until these have been examined and evaluated by a qualified archaeologist and arrangements have been made to avoid or otherwise protect valuable resources.

## *8.3.3 Solano County*

### 8.3.3.1 Solano County General Plan

The *Solano County General Plan* was adopted on August 5, 2008, and was subject to voter approval as Measure T on the November 4, 2008 ballot. Measure T was passed by the voters, thereby confirming the approval of the new general plan.

Chapter 4, Resources, of the general plan includes an Open Space Element that addresses the preservation and protection of recreational, scenic, agricultural, and cultural resources. The following policy from the Open Space Element is applicable to the project alternatives (Solano County 2008, Ch. 4, p. RS-43):

- **Policy RS.P-38:** Identify and preserve important prehistoric and historic structures, features, and communities.

### 8.3.3.2 City of Benicia General Plan

The *City of Benicia General Plan*, which was adopted on June 15, 1999, addresses historic preservation and archaeological resources. The following goals and policies from the plan may be applicable to the project alternatives (City of Benicia 1999, pp. 103–105):

*Historic Preservation*

- **Goal 3.1:** Maintain and enhance Benicia's historic character.
- **Policy 3.1.3:** Preserve historic trees and landscapes. (Refer to the Arsenal Historic Conservation Plan, November 1993, for guidance on historic trees and landscaping.)
- **Policy 3.1.4:** Promote the preservation and enhancement of historic neighborhoods, commercial areas, and governmental districts.

*Historic and Archaeological Resources*

- **Goal 3.2:** Protect archaeological (including underwater) sites and resources.
- **Policy 3.2.1:** Ensure the protection and preservation of artifacts in known, and as yet unidentified, areas.
- **Program 3.2.D:** Require that all sites with archaeological resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist and an appropriate program developed to mitigate any impacts from the project.

#### 8.3.3.3 City of Fairfield General Plan

The *City of Fairfield General Plan* was adopted in June 2002. The plan addresses cultural and historic resources and identifies several significant historic sites or resources in the city. The following goals and policies may be applicable to the project alternatives (City of Fairfield 2002, pp. OS-24, OS-25, OS-36):

- **Objective OS 10:** Preserve and establish cultural and historic resources.
- **Policy OS 10.1:** Conserve valuable resources by promoting educational activities and encouraging conservation efforts by citizens, property owners, and builders.
- **Policy OS 10.3:** Consult with the California Archaeological Inventory Northwest Information Center at Sonoma State University on any project that could have an impact on cultural resources.
- **Policy OS 10.4:** Avoid impacts on cultural resources when archeological studies reveal the presence of cultural resources at a development site. If avoidance is infeasible, require site testing by a qualified archeologist to determine the significance of the resources, and implement recommended mitigation measures.
- **Policy OS 10.5:** Halt construction at a development site if cultural resources are encountered unexpectedly during construction and require consultation with a qualified archeologist to determine the significance of the resources.
- **Policy OS 10.7:** Require archeological studies by a qualified archeologist (as defined by the Secretary of the Interior's standards) in areas of archeological significance prior to approval of development projects.
- **Policy OS 10.9:** Promote the preservation and restoration of historical sites and structures within the General Plan Area that are significant to the City's or the region's cultural or historic background. (See Policy UD 3.4.)

#### 8.3.3.4 City of Rio Vista General Plan

The *City of Rio Vista General Plan 2001* was adopted on July 18, 2002. Chapter 10, Resource Conservation & Management, of the general plan addresses the conservation of resources, including historic resources. The following goal and policy from the general plan are applicable to the project alternatives (City of Rio Vista 2002, p. 10-39):

- **Goal 10.10:** To encourage preservation of the City's historic resources while enhancing their value and economic life.
- **Policy 10.10.C:** The City shall require that discretionary development projects identify important historic, archaeological, and cultural sites and their contributing environment from damage, destruction, and abuse. The City shall ensure that such assessments are incorporated into the City's cultural and historical database, to be maintained by the Rio Vista Museum.

#### 8.3.3.5 City of Suisun City General Plan

The *City of Suisun City General Plan* was adopted in May 1992. Chapter III (Community Character and Design) of the general plan addresses historic preservation. The following objective and policies from the general plan may be applicable to the project alternatives (City of Suisun City 1992, Volume I, p. 23):

- **Objective 4:** to preserve Suisun City's historic structures, landmarks, sites, and neighborhoods.

## *8.3.4 San Joaquin County*

### 8.3.4.1 San Joaquin County General Plan

The *San Joaquin County General Plan 2010* was adopted on July 29, 1992. The Resources Element in Volume 1 of the general plan addresses the protection of heritage resources, including archaeological resources. The following objective and policies from the Resources Element are applicable to the project alternatives (San Joaquin County 1992, Volume I, p. VI-37):

- **Objective 1:** To protect San Joaquin County's valuable architectural, historical, archaeological, and cultural resources.
- **Policy 2:** Significant archaeological and historical resources shall be identified and protected from destruction. If evidence of such resources appears after development begins, an assessment shall be made of the appropriate actions to preserve or remove the resources.
- **Policy 3:** No significant architectural, historical, archaeological or cultural resources shall be knowingly destroyed through County action.

### 8.3.4.2 City of Stockton General Plan

The *City of Stockton General Plan 2035 Goals and Policies Report* was adopted in December 2007. The Natural and Cultural Resources (NCR) Element of the general plan addresses the conservation of archaeological, historical, cultural, and paleontological resources. The following goal and policies from the general plan are applicable to the project alternatives (City of Stockton 2007, pp. 13-7 and 13-8):

- **Goal NCR-3:** To encourage the identification, protection, and enhancement of the city's archaeological, historical, cultural, and paleontological resources for their cultural values.
- **Policy NCR-3.1, Evaluation of Historic Resources:** The City shall use appropriate State and Federal standards in evaluating the significance of historic resources that are identified in the city.
- **Policy NCR-3.2, Historic Structures and Sites:** The City shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures, sites, and districts. Where applicable, preservation efforts shall conform to the current Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Building.
- **Policy NCR-3.3, Historical/Cultural Resources Inventory:** The City shall continue to maintain and update a historical resources inventory. In addition, the City will expand this inventory to include sites of cultural significance.
- **Policy NCR-3.5, Archaeological Resource Surveys:** Prior to project approval, the City shall require project applicant to have a qualified archeologist conduct the following activities: (1) conduct a record search at the Central California Information Center located at California State University Stanislaus and other appropriate historical repositories, (2) conduct field surveys where appropriate, and (3) prepare technical reports, where appropriate, meeting California Office of Historic Preservation Standards (Archeological Resource Management Reports).
- **Policy NCR-3.6, Discovery of Archaeological Resources:** Consistent with Stockton Municipal Code Section 16-310.050 – Cultural Resources, in the event that archaeological/paleontological resources are discovered during site excavation, the City shall require that grading and construction work on the project site be suspended until the significance of the features can be determined by a qualified archaeologist/paleontologist. The City will require that a qualified archeologist/paleontologist make recommendations for measures necessary to protect any site determined to contain or constitute an historical resource, a unique archaeological resource, or a

unique paleontological resource or to undertake data recovery, excavation, analysis, and curation of archaeological/paleontologist materials. City staff shall consider such recommendations and implement them where they are feasible in light of project design as previously approved by the City.

- **Policy NCR-3.7, Native American Resources:** The City shall consult with Native American representatives regarding cultural resources to identify locations of importance to Native Americans, including archeological sites and traditional cultural properties. Coordination with the Native American Heritage Commission should begin at the onset of a particular project.

- **Policy NCR-3.8, Discovery of Human Remains:** Consistent with Stockton Municipal Code Section 16-310.050 – Cultural Resources and the CEQA Guidelines (Section 15064.5), if human remains of Native American origin are discovered during project construction, it is necessary to comply with State laws relating to the disposition of Native American burials, which fall within the jurisdiction of the Native American Heritage Commission (Public Resources Code Sec. 5097).

#### 8.3.4.3 City of Lathrop General Plan

The existing *Comprehensive General Plan for the City of Lathrop, California* was adopted on November 19, 1991. The Resource Management Element of the general plan addresses the conservation of resources, including historic resources. The following archaeological and cultural resources policies from the general plan are applicable to the project alternatives (City of Lathrop 1991, p. 5-12):

- **Policy 1:** Existing known archaeological and cultural resources are to be protected, beginning with the filing of an application for development in the immediate vicinity of such resources. The City shall follow the procedures set forth in Appendix K of CEQA Guidelines. Confidentiality shall be maintained between the City and developer to avoid vandalism or desecration of such resources. Alternatives for development design intended to protect cultural resources shall be reviewed by a Native American having competence in understanding and interpreting the importance of the resources and of the most desirable methods to assure their preservation.

- **Policy 2:** The potential loss of as yet unknown archaeological and cultural resources shall be avoided by close monitoring of the development process. The close proximity of properties intended for development to natural watercourses or to known archaeological or cultural resources shall be taken as a signal by the City and developer of a potential for unearthing unknown resources. In such cases, the City shall instruct the developers, construction foremen and City inspectors of the potential for damage to artifacts and sites, and provide written instructions requiring a halt to all excavation work in the event of any find until the significance of the find can be evaluated by competent archaeological and Native American specialists. The costs of such protection work shall be the responsibility of the developer.

#### 8.3.4.4 City of Manteca General Plan

The *City of Manteca General Plan 2023* was adopted on October 6, 2003. The Resource Conservation Element of the general plan addresses cultural resources. The cultural resources goals, policies, and implementation from the general plan are applicable to the project alternatives (City of Manteca 2003, pp. 8-15 through 8-17):

- **Goal RC-11:** Preserve and enhance Manteca's archaeological and historic resources for their aesthetic, educational and cultural values.

- **Goal RC-12:** Protect Manteca's Native American heritage.

- **Policy RC-P-37:** The City shall not knowingly approve any public or private project that may adversely affect an archaeological site without consulting the California Archaeological Inventory at Stanislaus State University, conducting a site evaluation as may be indicated, and attempting to mitigate any adverse impacts according to the recommendation of a qualified archaeologist. City implementation of this policy shall be guided by the CEQA and NHPA.
- **Policy RC-P-38:** The City shall require that the proponent of any development proposal in an area with potential archaeological resources, and specifically near the San Joaquin River and Walthall Slough, and on the east side of State Highway 99 at the Louise Avenue crossing, shall consult with the California Archaeological Inventory, Stanislaus State University to determine the potential for discovery of cultural resources, conduct a site evaluation as may be indicated, and mitigate any adverse impacts according to the recommendation of a qualified archaeologist. The survey and mitigation shall be developer funded.
- **Policy RC-P-39:** The City shall set as a priority the protection and enhancement of Manteca's historically and architecturally significant buildings.
- **Policy RC-P-40:** The City shall work with property owners seeking registration of historical structures as Historic Landmarks or listing on the Register of Historic Sites.
- **Policy RC-P-41:** The City shall prepare and adopt a Historical Preservation Ordinance.
- **Policy RC-P-42:** The City and Redevelopment Agency shall support the efforts of property owners to preserve and renovate historic and architecturally significant structures. Where such buildings cannot be preserved intact, the City shall seek to preserve the building facades.
- **Implementation Measure RC-I-40:** When feasible, incorporate significant archaeological sites into open space areas.
- **Implementation Measure RC-I-45:** The City shall adopt and implement a historic building code, as authorized by State law.
- **Implementation Measure RC-I-46:** If human remains are discovered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to their origin and disposition pursuant to Public Resource Code Section 5097.98. If the Coroner determines that no investigation of the cause of death is required, and if the remains are of Native American origin, the Coroner will notify the Native American Heritage Commission, which in turn will inform a most likely descendent. The descendent will then recommend to the landowner appropriate disposition of the remains and any grave goods.

#### 8.3.4.5 City of Tracy General Plan

The *City of Tracy General Plan* was adopted on February 1, 2011. The Community Character Element of the general plan addresses the conservation of historic resources. The following policies from the general plan are applicable to the project alternatives (City of Tracy 2011, pp. 3-19 and 3-20):

- **Objective CC-3:** Preserve and enhance historic resources.
- **Policy P1:** The City shall encourage the preservation, enhancement and conservation of historic and older neighborhoods, such as Lincoln Park, through its direct actions.
- **Policy P2:** Identified cultural and historic landmarks and buildings shall be preserved.
- **Policy P3:** New development, redevelopment, alterations and remodeling projects should be sensitive to surrounding historic context.

- **Policy P4:** As part of the development review process, there shall be a standard condition of approval that if any resources are found during construction, all operations within the project area shall halt until an assessment can be made by appropriate professionals regarding the presence of archaeological and paleontological resources and the potential for adverse impacts on these resources.
- **Policy P5:** Any archaeological or paleontological resources on private property shall be either preserved on their sites or adequately documented and conserved as a condition of removal. If any resources are found unexpectedly during development, then construction must cease immediately until accurate study and conservation measures are implemented.
- **Policy P6:** If Native American artifacts are discovered on a site, the City shall consult representatives of the Native American community to ensure the respectful treatment of Native American sacred places.
- **Action A1:** Update, expand and maintain inventories of Tracy's historic resources, using criteria and methods that are consistent with State and Federal guidelines.

## *8.3.5 Contra Costa County*

### 8.3.5.1 Contra Costa County General Plan

A comprehensive update to the *Contra Costa County General Plan* was prepared and adopted on January 18, 2005. The Open Space Element of the general plan addresses the preservation of historic and cultural resources. The following goal and policy from the Open Space Element are applicable to the project alternatives (Contra Costa County 2005, p. 9-11):

- **Goal 9-31:** To identify and preserve important archaeological and historic resources within the County.
- **Policy 9-32:** Areas which have identifiable and important archaeological or historic significance shall be preserved for such uses, preferably in public ownership.

### 8.3.5.2 City of Antioch General Plan

The *City of Antioch General Plan* was adopted on November 24, 2003. The Resource Management Element of the general plan addresses cultural resources in the Delta. The following policies from the Resource Conservation Element are applicable to the project alternatives (City of Antioch 2003, pp. 10-15 and 10-16):

- **Cultural Policy a:** Require new development to analyze, and therefore avoid or mitigate impacts to archaeological, paleontological, and historic resources. Require surveys for projects having the potential to impact archaeological, paleontological, or historic resources. If significant resources are found to be present, provide mitigation in accordance with applicable CEQA guidelines and provisions of the California Public Resources Code.
- **Cultural Policy d:** As a standard condition of approval for new development projects, require that if unanticipated cultural or paleontological resources are encountered during grading, alteration of earth materials in the vicinity of the find be halted until a qualified expert has evaluated the find and recorded identified cultural resources.
- **Cultural Policy e:** Preserve historic structures and ensure that alterations to historic buildings and their immediate settings are compatible with the character of the structure and the surrounding neighborhood.

### 8.3.5.3 City of Pittsburg General Plan

The *City of Pittsburg General Plan* was adopted in December 2004. The Resource Conservation Element of the general plan addresses cultural resources in the Delta. The following goals and policies from the Resource Conservation Element are applicable to the project alternatives (City of Pittsburg 2001, pp. 9-30 through 9-32):

- **Goal 9-G-12:** Encourage the preservation, protection, enhancement and use of structures that:
  - Represent past eras, events and persons important in history;
  - Provide significant examples of architecture;
  - Embody unique and irreplaceable assets to the City and its neighborhoods; and
  - Provide examples of the physical surroundings in which past generations lived.
- **Goal 9-G-13:** Encourage municipal and community awareness, appreciation, and support for Pittsburg's historic, cultural, and archeological resources.
- **Policy 9-P-34:** Encourage the preservation of varied architectural styles that reflect the cultural, industrial, social, economic, political and architectural phases of the City's history.
- **Policy 9-P-38:** Explore mechanisms to incorporate Pittsburg's industrial heritage in historic and cultural preservation.
- **Policy 9-P-39:** Ensure the protection of known archeological resources in the City by acquiring a records review for any development proposed in areas of known resources. If such resources are found, limit urban development in the vicinity or account for the resources.
- **Policy 9-P-40:** In accordance with State law, ensure the preparation of a resource mitigation plan and monitoring program by a qualified archeologist in the event that archeological resources are uncovered.
- **Policy 9-P-41:** If archeological resources are found during ground-breaking for new urban development, halt construction immediately and conduct an archeological investigation to collect all valuable remnants.
- **Policy 9-P-42:** Develop an identification and preservation system for cultural resources—those places or structures that qualify as "important" or "unique" to local community, ethnic, or social groups.

### 8.3.5.4 City of Brentwood General Plan

The *City of Brentwood General Plan* was adopted on June 8, 1993. The Conservation/Open Space Element of the general plan addresses the protection and enhancement of environmental resources, including cultural resources, in the Delta. The following goal and policies from the Conservation/Open Space Element are applicable to the project alternatives (City of Brentwood 1993, pp. IV.1-2 and IV.1-5):

- **Goal 2:** Preserve and enhance prehistoric, historic and cultural resources in and around the Brentwood community.
- **Policy.2.1, Historic Structures:** Retain and maintain historic structures.
- **Policy.2.2, Archaeological Preservation:** Preserve archeological resources that are known to the community.

#### 8.3.5.5 City of Oakley General Plan

The *City of Oakley 2020 General Plan* was adopted on December 16, 2002. The Open Space and Conservation Element of the general plan addresses the protection and enhancement of environmental resources, including cultural resources, in the Delta. The following goal and policy from the Open Space and Conservation Element are applicable to the project alternatives (City of Oakley 2002, p. 6-5):

- **Goal 6.4:** Encourage preservation of cultural resources within the Plan Area.
- **Policy.6.4.1:** Preserve areas that have identifiable and important archaeological or paleontological significance.

### *8.3.6 Alameda County*

#### 8.3.6.1 East County Area Plan

The eastern portion of Alameda County is governed by the *East County Area Plan*, which was adopted by the county in May 1994. In November 2000, the Alameda County electorate approved Measure D, the Save Agriculture and Open Space Lands Initiative, which amended portions of the general plan, including the *East County Area Plan* (Alameda County 1994).

The Open Space Element of the document addresses cultural resources. The following goals and policies from the plan related to protecting cultural resources are applicable to the project alternatives (Alameda County 1994, p. 36):

- **Goal:** To protect cultural resources from development.
- **Policy 136:** The County shall identify and preserve significant archaeological and historical resources, including structures and sites which contribute to the heritage of East County.
- **Policy 137:** The County shall require development to be designed to avoid cultural resources or, if avoidance is determined by the County to be infeasible, to include appropriate mitigation measures that offset the impacts.

# 9.0 Geology Regulatory Framework

This section provides an overview of the plans, policies, and regulations relating to the geologic resources within the study area.

## 9.1 Federal Regulatory Framework

### *9.1.1 U.S. Geological Survey Quaternary Faults*

U.S. Geological Survey (USGS) maintains the database of Quaternary fault and fold parameters (USGS 2009). The database is periodically updated to reflect the latest data available and current understanding of fault behaviors. These fault parameters were used to develop the National Seismic Hazard Maps.

### *9.1.2 U.S. Geological Survey National Seismic Hazard Maps*

USGS provides probabilistic seismic hazard maps for the 48 conterminous states, including the Delta area (USGS 2009). These maps depict contour plots of peak ground acceleration and spectral accelerations at selected frequencies for various ground motion return periods. As noted previously, the maps were developed for a reference site condition with an average shear-wave velocity of about 2,500 feet per second in the top 100 feet. Ground motions in the Delta may be as much as 2 to 4 times higher due to soft soil amplification.

The USGS National Seismic Hazard Maps are updated periodically and have been adopted by many building and highway codes as the minimum design requirements.

### 9.1.3 U.S. Geological Survey Landslide Hazard Program

USGS provides information regarding the causes of ground failure and mitigation strategies to reduce long-term losses from landslide hazards. The information is useful for understanding the nature and scope of ground failures and for improving the mitigation strategies.

### 9.1.4 Federal Regulatory Design Codes for Buildings, Highways, and Other Structures

Federal standards for minimum design regulate the construction of any buildings, highways, and other structures and include the following:

- American Association of State Highway and Transportation Officials (AASHTO) Guide Specifications for LRFD [load and resistance factor] Seismic Bridge Design, 1st Edition, 2009
- American Railway Engineering and Maintenance-of-Way Association Manual for Railway Engineering, Volume 2, Chapter 9, Seismic Design for Railway Structures, 2008
- American Society of Civil Engineers Minimum Design Loads for Buildings and Other Structures, ASCE-7-05, 2005
- Federal Highway Administration Seismic Retrofitting Manual for Highways Structures, Parts 1 and 2, 2006
- USACE [U.S. Army Corps of Engineers] (CESPK-ED-G), Geotechnical Levee Practice, SOP EDG-03, 2004
- USACE Design and Construction of Levees, EM 1110-2-1913, 2000
- USACE Engineering and Design, Earthquake Design and Evaluation for Civil Works Projects, ER 1110-2-1806, 1995
- USACE Engineering and Design – Earthquake Design and Evaluation of Concrete Hydraulic Structures, EM 1110-2-6053, 2007
- USACE Engineering and Design – General Design and Construction Considerations for Earth and Rock-Fill Dams, EM 1110-2-2300, 2004
- USACE Engineering and Design – Response Spectra and Seismic Analysis for Concrete Hydraulic Structures, EM 1110-2-6050,1999
- USACE Engineering and Design – Stability Analysis of Concrete Structures, EM 1110-2-2100, 2005
- USACE Engineering and Design – Structural Design and Evaluation of Outlet Works, EM 1110-2-2400, 2003
- USACE Engineering and Design – Time-History Dynamic Analysis of Concrete Hydraulic Structure, EM 1110-2-6051, 2003
- USACE Slope Stability, EM 1110-2-1902, 2003
- U.S. Department of the Interior and USGS Climate Change and Water Resources Management: A Federal Perspective, Circular 1331

These standards establish minimum design criteria and construction requirements, including design of concrete and steel structures, levees, pipelines, buildings, pumping stations, excavation and shoring, grading, and foundations. Standards issued by the State are listed in the following section.

## 9.2 State Regulatory Framework

### *9.2.1 Liquefaction and Landslide Hazard Maps (Seismic Hazards Mapping Act)*

The Seismic Hazards Mapping Act of 1990 (Pub. Resources Code sections 2690 to 2699.6) was passed following the Loma Prieta earthquake to reduce threats to public health and safety by identifying and mapping known seismic hazard zones in California. The act directs the California Geological Survey (CGS, formerly the California Division of Mines and Geology) of the Department of Conservation to identify and map areas prone to earthquake hazards of liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the maps is to assist cities and counties in fulfilling their responsibilities for protecting public health and safety.

As of January 2006, 110 official seismic hazard zone maps showing areas prone to liquefaction and landslides had been published in California, and more maps are scheduled to be published. Most of the mapping has been performed in Southern California and the San Francisco Bay Area. Twenty-two official maps for the San Francisco Bay Area have been released, and preparation of 19 additional maps for San Mateo, Santa Clara, Alameda, and Contra Costa counties is planned or in progress. CGS has no current plans to map San Joaquin County.

A development permit review is required for sites in the mapped seismic hazard zones. Site-specific geologic investigations and evaluations are carried out to identify the extent of hazards, and appropriate mitigation measures are incorporated in the development plans to reduce potential damage.

### *9.2.2 Alquist-Priolo Earthquake Fault Zones*

The Alquist-Priolo (AP) Earthquake Fault Zoning Act was passed in 1972 (Pub. Resources Code section 2621 et seq.). Similar to the Seismic Hazards Mapping Act, its main purposes are to identify known active faults in California and to prevent the construction of buildings used for human occupancy on the surface trace of active faults. For the purpose of this act, a fault is considered active if it displays evidence of surface displacement during Holocene time (approximately during the last 11,000 years).

The act directs CGS to establish the regulatory zones, called AP Earthquake Fault Zones, around the known surface traces of active faults and to publish maps showing these zones. Each fault zone extends approximately 200 to 500 feet on either side of the mapped fault trace to account for potential branches or splays of active faults.

CGS Special Publication 42 (Bryant and Hart 2007) states that in the absence of a site-specific faulting study, the areas within 50 feet of the mapped fault should be considered to have the potential for surface faulting and, therefore, no structure for human occupancy should be located in these areas. Construction of buildings intended for human occupancy within the fault zone boundaries is strictly regulated, and site-specific faulting investigations are required.

Title 14 of the Cal. Code of Regs. section 3601(e), defines buildings intended for human occupancy as those that would be inhabited for more than 2,000 hours per year. If no facilities are to be located within AP Earthquake Fault Zones, this act would not apply.

### *9.2.3 Assembly Bill 1200*

Assembly Bill 1200 (Laird, 2005 as amended) added sections 139, 139.2, and 139.4 to the Wat. Code. The bill directed the DWR and the DFG to prepare a report evaluating the potential impacts on water supplies derived from the Delta from a variety of stressors, including continuous land subsidence,

earthquakes, floods, climate change, and earthquakes. The report, *Risks and Options to Reduce Risks to Fishery and Water Supply Uses of the Sacramento–San Joaquin Delta*, was issued in 2008 and summarizes the potential risks to water supplies in the Sacramento–San Joaquin Delta attributable to future subsidence, earthquakes, floods, and climate change. The report identifies potential improvements to reduce these risks. Further detail about this legislation is presented in Section 3.0, Delta Flood Risk Regulatory Framework.

### *9.2.4 State Regulatory Design Codes for Buildings, Highways, and Other Structures*

State standards for minimum design regulate the construction of any buildings, highways, and other structures and include the following:

- California Amendments to AASHTO LRFD Bridge Design Specifications, Fourth Edition, 2008
- California Building Code, 2007 (Title 24 California Code of Regulations)
- Caltrans Seismic Design Criteria, latest edition
- DWR Division of Safety of Dams Guidelines for Use of the Consequence-Hazard Matrix and Selection of Ground Motion Parameters, 2002
- DWR Interim Levee Design Criteria for Urban and Urbanizing Area State-Federal Project Levees, 2009

# 10.0 Soils Regulatory Framework

This section describes the soil resources and regulatory setting in which potential impacts on soil resources could occur as a result of adopting the Delta Plan or implementing the alternatives.

## 10.1 Federal Regulatory Framework

Federal laws and regulations that are relevant to soil resources are described below.

### *10.1.1 Clean Water Act*

In November 1990, the USEPA established regulations that provided stormwater permit requirements for specific categories of industries, including construction (Phase I Rule). Under Phase I, a stormwater permit was required for construction projects that disturbed 5 or more acres of land and for large MS4s. In December 1999, USEPA promulgated regulations (Phase II Rule) that expanded the National Pollutant Discharge Elimination System (section 402) to require a stormwater discharge permit for construction activities with a disturbance area of 1 to 5 acres and for small MS4s. In California, USEPA has delegated responsibility for Clean Water Act implementation to the SWRCB.

## 10.2 State Regulatory Framework

### *10.2.1 Porter-Cologne Water Pollution Control Act*

Under the Porter-Cologne Act (discussed in Section 1.0, Water Resources Regulatory Framework), responsibilities for coordination and control of water quality are assigned to the SWRCB and nine RWQCBs. The Delta and the Suisun Marsh are within the jurisdictions of the Central Valley RWQCB and the San Francisco Bay RWQCB. These RWQCBs are responsible for ensuring that construction activities comply with the State general permit regulating construction activities.

### 10.2.2 National Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Sites

In 2009, the SWRCB adopted the California General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities, SWRCB Order No. 2009-0009-DWQ, which regulates stormwater discharges from construction sites greater than 1 acre. Coverage under the general permit is obtained by submitting required documentation and fees to SWRCB. Stormwater discharges are authorized after obtaining coverage under the permit and developing and implementing a site-specific stormwater pollution prevention plan that identifies an effective combination of soil erosion and sediment controls.

### 10.2.3 MS4 Permits

The Phase I Rule required that large MS4s obtain a stormwater discharge permit, and the Phase II Rule expands the requirement to small MS4s. Within the project area, individual MS4 permits have been issued for several municipal jurisdictions within the Delta and the Suisun Marsh. Phase I and II MS4 permits require permittees to develop and implement stormwater management plans that include provisions for reducing pollutant discharges from construction activities. Local jurisdictions are responsible for enforcement of those provisions.

### 10.2.4 Nonpoint Source Implementation and Enforcement Policy

The State's Nonpoint Source Implementation and Enforcement Policy describes how its nonpoint source (NPS) plan is to be implemented and enforced, in compliance with section 319 of the Clean Water Act, Coastal Zone Act Reauthorization Amendments, and the Porter-Cologne Act. In contrast to point source pollution that enters water bodies from discrete conveyances, NPS pollution enters water bodies from diffuse sources, such as land runoff, seepage, or hydrologic modification. NPS is controlled through implementation of management measures. The NPS program contains recommended management measures for developing areas and construction sites, as well as wetland and riparian areas. Requirements for soil erosion and sediment controls to prevent NPS sediment discharges to waterways may be incorporated into permits issued by the San Francisco BCDC or other regulatory entities.

### 10.2.5 McAteer-Petris Act

BCDC has jurisdiction over certain activities in San Francisco Bay and portions of the Suisun Marsh below the 10-foot contour line (including islands, levees, and grasslands) and any creeks or streams that flow into the bay. BCDC's authority includes issuing permits for dredging, grading, or construction, and repair or remodeling of structures in areas within the agency's jurisdiction.

### 10.2.6 Suisun Marsh Preservation Act and Suisun Marsh Protection Plan

Activities in the Suisun Marsh that may be regulated under the *Suisun Marsh Preservation Plan* include dredging, reduction of agricultural land by flooding of islands, and soil erosion controls. If restoration activities are conducted in the Suisun Marsh in areas under BCDC jurisdiction, a permit from that agency would include measures to control soil erosion and sedimentation. Additional information about the act and the plan are provided in Section 2.0, Biological Resources Regulatory Framework.

### 10.2.7 California Building Code

California's minimum standards for structural design and construction are provided in the California Building Code (24 Cal. Code of Regs.). The California Building Code provides standards for various aspects of construction, including excavation, grading, and fill. It provides requirements for classifying soils and identifying corrective actions when native soil properties could lead to structural damage (e.g., expansive soils).

# 10.3 Local Regulatory Framework

Cities and counties have developed ordinances, policies, and other regulatory mechanisms for controlling pollutant discharges in construction site runoff, including grading and erosion control ordinances, and drainage and land leveling ordinances. Development and implementation of local controls for managing stormwater, including adoption of ordinances, are generally requirements of MS4 permits issued by RWQCBs. An application for a grading permit typically includes vicinity and site maps; a grading plan; and an engineered erosion, sediment, and runoff control plan. Local permits are generally required for construction activities, and construction projects must conform to local drainage and erosion control policies and ordinances.

## *10.3.1 Sacramento County*

### 10.3.1.1 Sacramento County General Plan

The *Sacramento County General Plan* discusses soils resources in the Conservation Element. The following policies are specific to the preservation of soils resources (Sacramento County 1993, pp. 50-54):

- **CO-54.** Direct development away from prime or statewide importance soils or otherwise provide for mitigation that slows the loss of additional farmland conversion to other uses.
- **CO-55.** Projects resulting in the conversion of more than fifty (50) acres of prime or statewide in importance farmland shall be deemed to have a significant environmental effect, as defined by [California Environmental Quality Act] CEQA.
- **CO-56.** Golf courses shall not be constructed on prime farmlands outside of the urban service ar**e**a boundary.
- **CO-57.** Curtail tillage of peat-rich Delta soils to retard erosion and subsidence, and protect the agricultural productivity of Delta islands.
- **CO-58.** Work with rural landowners and existing Resource Conservation Districts to promote soil conservation practices.
- **CO-59.** In areas where top soil mining is permitted, it shall be done so as to maintain the long-term productivity of the soil.

Additional policies are being considered as part of the process to update the general plan.

### 10.3.1.2 City of Sacramento General Plan

The City of Sacramento General Plan discusses soil resources in the Environmental Resources Element. The following policy addresses the preservation of soil resources (City of Sacramento 2009, p. 2-304):

- **ER 1.1.7.** Construction Site Impacts. The City shall minimize disturbances of natural water bodies and natural drainage systems caused by development, implement measures to protect areas from erosion and sediment loss, and continue to require construction contractors to comply with the City's erosion and sediment control ordinance and stormwater management and discharge control ordinance.

#### 10.3.1.3 City of Elk Grove General Plan

The *City of Elk Grove General Plan* discusses soils resources in the Conservation and Air Quality Element. The following policy is specific to the preservation of soils resources (City of Elk Grove 2003, p. 47):

- **CAQ-5.** Roads and structures shall be designed, built and landscaped so as to minimize erosion during and after construction.

### *10.3.2 Yolo County*

#### 10.3.2.1 Yolo County General Plan

The Yolo County general plan does not include specific policies associated with soils resources.

#### 10.3.2.2 City of West Sacramento General Plan

The City of West Sacramento general plan does not include specific policies associated with soils resources.

### *10.3.3 Solano County*

#### 10.3.3.1 Solano County General Plan

The *Solano County General Plan* discusses soil resources as part of the Public Health and Safety and Public Facilities and Services chapters (Solano County 2008, p. HS-34). The following policies are specific to the preservation of soils in the Delta (Solano County 2008, pp. HS-12 and HS-34, and PF-26 and PF-27):

- **HS.P-10:** Ensure that flood management policies that minimize loss of life and property also balance with environmental health considerations of the floodplain and therefore do not cause further erosion, sedimentation, or water quality problems in the floodplain area.
- **HS.P-18:** Make information about soils with a high shrink-swell potential readily available. Require proper foundation designs in these areas.
- **PF.I-31:** Design, construct, and maintain County buildings, roads, bridges, drainage, and other facilities to minimize sediment and other pollutants in stormwater flows. Develop and implement best management practices [BMP] for ongoing maintenance and operation. Prepare and implement a BMP manual for minimizing stormwater pollutants associated with construction and maintenance of County buildings, roads, and other facilities
- **PF.I-32**: As a condition of project approval, require new development to provide adequate on-site and offsite stormwater and drainage facilities to control both direct and indirect erosion and discharges of pollutants and/or sediments so that "no net increase in runoff" occurs as a result of the proposed project. To determine the needs for facilities and best management practices, the County will require, when necessary, that a licensed and County-approved civil engineer perform a hydrological/drainage analysis. The project applicant would be responsible for the cost of this analysis. In cases where a local or regional drainage facility may be the best solution to serve multiple properties or an entire drainage basin, the County will work with property owners and public agencies with jurisdiction in the affected area to devise an appropriate funding mechanism (e.g., impact fees, assessment district) for such facilities.

The *Solano County General Plan* also includes specific policies for the Suisun Marsh. The following policies are specific to soil resources in the Suisun Marsh in Solano County (Solano County 2008, pp. App C-5–C13 and C-26):

- 5. Any development in the Suisun Marsh watershed or secondary management area proposed for areas that have poor soil conditions for construction or that are seismically active, should be controlled to prevent or minimize earth disturbance, erosion, water pollution, and hazards to public safety. Local runoff, erosion, and sediment control ordinances should be established in the immediate Suisun Marsh watershed to protect the Marsh from these potential adverse effects.

- 9.b. In order to minimize adverse effects on desirable plant and wildlife communities and to minimize the potential for erosion and sedimentation, all diking, dredging and filling activities shall be carried out in conformity with the following general principles and standards...iii. Exposure of soil to erosion by removal of vegetation shall be limited to the smallest area practical and for the shortest time practical. Soil exposure should not exceed an area in which work can be completed during a single construction season to insure that soil stability is established well in advance of the rainy season. In general, soil disturbance shall be limited to the period between April 1 and October 1.

- 9.b.v. Facilities shall be constructed in a manner which will minimize erosion and sediment deposition in adjacent waterways and wetlands.

- 9.c. To prevent sedimentation resulting from dredging projects and to restore and enhance wetlands, dredged sediments should be disposed of in one of the following ways: (a) placement on dry land; (b) placement as fill in approved fills or levee projects; (c) barging or piping to suitable disposal sites in the ocean, or dumping in areas of the bay designated for such purposes by the appropriate governmental agency; or (d) used to restore or enhance tidal, managed, or seasonal wetlands.

- Industrial development which is allowable under the land use policies of this subarea should conform to the following development criteria: 1. Filling of low-lying lands designated ...as “flat lowlands” is permissible for purposes of leveling and improvement of soil stability and site drainage when part of an engineered fill for a proposed water-related industry. Disposal of dredged sediments at this site should be allowed in order to make the site usable for such industrial purposes or for wetland restoration and enhancement. Any dredged sediment placed on site should also be properly engineered to avoid problems with settlement, liquefaction, mud waves, exposure of contaminants, erosion, overloading and similar problems. Restored wetlands shall remain as wetlands and not be developed for industrial uses that this habitat loss will be offset by maintenance of existing lowland areas east of the Marshal Cut or restoration of other wetlands.

#### 10.3.3.2 City of Rio Vista General Plan

The *City of Rio Vista General Plan* discusses soil resources in the Resource Conservation and Management Element. The following policy is specific to the preservation of soil resources (City of Rio Vista 2002, p. 10-38):

- **10.7.A.** The City shall minimize soil erosion and sedimentation by maintaining compatible land uses, suitable building designs, and appropriate construction techniques.

#### 10.3.3.3 City of Suisun City General Plan

The *City of Suisun City General Plan* addresses soil resources in the Noise and Safety Element (City of Suisun City 1992, pp. 108). The general plan does not include specific policies associated with preservation of soil resources.

## *10.3.4 City of Fairfield General Plan*

The *City of Fairfield General Plan* addresses soil resources in the Open Space and Conservation Element, Agricultural Element, and Health and Safety Element.

The following Open Space (OS) and Conservation Element policy is specific to the preservation of soil resources (City of Fairfield 2002, p. OS-3)

- **Policy OS 2.1:** All future Master Plans shall include adequate provisions for incorporating open space buffers. View corridors, watersheds, and prominent ridges shall be protected, and development on unstable soils shall be discouraged.

The following Agricultural Element goal and policy is specific to the preservation of soil resources (City of Fairfield 2002, p. AG-2):

- **Goal:** Recognize the economic importance of agriculture in Solano County by directing the City's growth away from important farmlands and prime agricultural soils.
- **Policy AG 1.7:** Annexation areas contained in the City's 1998 Comprehensive Annexation Plan which contain prime agricultural soils shall be given a lower priority than annexation areas without prime agricultural soils with the same land use designation or intended use unless: a) this would not result in orderly development patterns (i.e. pockets of prime agricultural soils surrounded by land developed with urban uses), or b) the annexation area is within an area designated for development by the General Plan, or c) the prime agricultural soils contained within the annexation area are not planned for urban development.

The following Health and Safety (HS) Element policies are specific to the preservation of soil resources (City of Fairfield 2002, pp. HS-3 and HS-4):

- **Policy HS 2.4:** Development is discouraged on slopes in excess of twenty (20) percent and/or unstable soils.
- **Policy HS 2.8:** Require an erosion control and rehabilitation plan to be prepared for projects requiring substantial groundbreaking activities to control short-term and long-term erosion and sedimentation in nearby streams and rivers.

### 10.3.4.1 City of Benicia General Plan

The City of Benicia general plan does not include specific policies associated with soil resources.

## *10.3.5 San Joaquin County*

### 10.3.5.1 San Joaquin County General Plan

The San Joaquin County general plan does not include specific policies associated with soil resources.

### 10.3.5.2 City of Tracy General Plan

The *City of Tracy General Plan* discusses soil resources in the Safety (SA) Element. The following policies are specific to the preservation of soil resources (City of Tracy 2011, p. 8-12):

- **SA-2.1 P1.** P1. Development shall only be allowed on lands within the 100-year flood zone, if it will not:
  - Substantially increase erosion and/or sedimentation.

### 10.3.5.3 City of Lathrop General Plan

The City of Lathrop general plan does not include specific policies associated with soil resources.

#### 10.3.5.4 City of Stockton General Plan

The City of Stockton general plan does not include specific policies associated with soil resources.

#### 10.3.5.5 City of Manteca General Plan

The *City of Manteca General Plan* discusses soil resources in the Resource Element. The following policies are specific to the preservation of soil resources (City of Manteca 2003, p. 8-6):

- **RC-P-10.** Minimize soil erosion and loss of topsoil from land development activities, wind, and water flow.

### *10.3.6 Contra Costa County*

#### 10.3.6.1 Contra Costa County General Plan

The *Contra Costa County General Plan* discusses soil resources in the Conservation Element. The following policies are specific to the preservation of soil resources (Contra Costa County 2005, p. 8-40):

- **8-63.** The County shall protect soil resources within its boundaries.
- **8-63.** Erosion control procedures shall be established and enforced for all private and public construction and grading projects.
- **8-64.** The County shall support and encourage existing local, State, and Federal soil conservation and restoration programs within its borders.
- **8-65.** In absence of more detailed site-specific studies, determinations of soil suitability for particular land uses shall be made according to the Soil Conservation Service's "Soil Survey of Contra Costa County."
- **8-66.** The existing County slope map shall be used to identify areas in the County where slope poses severe constraints for particular land uses.
- **8-68.** Lands having a high erosion potential as identified in the Soil Survey shall require adequate erosion control methods for agricultural and other issues.

#### 10.3.6.2 City of Oakley General Plan

The City of Oakley general plan does not include specific policies associated with soil resources.

#### 10.3.6.3 City of Antioch General Plan

The *City of Antioch General Plan* discusses soil resources in the Public Services and Facilities Element. The following policies are specific to the preservation of soil resources (City of Antioch 2003, p. 8-6):

- **8.7.2.e.** Require new developments to provide erosion and sedimentation control measures to maintain the capacity of area storm drains and protect water quality.
- **8.7.2.f.** Require implementation of Best Management Practices in the design of drainage systems to reduce discharge of non-point source pollutants originating in streets, parking lots, paved industrial work areas, and open spaces involved with pesticide applications.

#### 10.3.6.4 City of Pittsburg General Plan

The *City of Pittsburg General Plan* discusses soil resources in the Resource Conservation Element. The following policies are specific to the preservation of soil resources (City of Pittsburg 2001, pp. 9-16 and 9-17):

- **9-P-15.** As part of development plans, require evaluation and implementation of appropriate measures for creek bank stabilization, as well as necessary Best Management Practices (BMPs) to reduce erosion and sedimentation. Encourage preservation of natural creeks and riparian habitat as best as possible.
- **9-P-16.** Establish development standards for new construction adjacent to riparian zones to reduce sedimentation and flooding. Standards should include:
  - Requirements that low berms or other temporary structures such as protection fences be built between a construction site and riparian corridor to preclude sheet-flooding stormwater from entering the corridors during the construction period.
  - Requirements for installation of storm sewers before construction occurs to collect stormwater runoff during construction.

#### 10.3.6.5 City of Brentwood General Plan

The City of Brentwood general plan does not include specific policies associated with soil resources.

# 11.0 Mineral Resources Regulatory Framework

This section describes the mineral resources and regulatory setting in which potential impacts on mineral resources could occur as a result of adopting the Delta Plan or implementing the alternatives.

## 11.1 Federal Regulatory Framework

Federal laws and regulations that are relevant to mineral resources are described below.

### *11.1.1 Surface Mining Control and Reclamation Act of 1977*

There are no known coal mines in the project area that would be regulated pursuant to the Surface Mining Control and Reclamation Act of 1977.

## 11.2 State Regulatory Framework

### *11.2.1 Surface Mining and Reclamation Act of 1975*

Mining activities are regulated in the State of California by the Surface Mining and Reclamation Act of 1975 (SMARA) (Pub. Resources Code section 2710 et seq.). This law's purpose is to create and maintain an effective and comprehensive surface mining and reclamation policy. The policy regulates surface mining operations to assure that adverse environmental effects are prevented or minimized and that mined lands are reclaimed to a usable condition that is readily adaptable for alternative land uses. Production and conservation of minerals are encouraged, and consideration is given to values relating to recreation, wildlife, range and forage, and aesthetic enjoyment, while eliminating residual hazards to public health and safety. These goals are achieved through land use planning by allowing jurisdictions to balance the economic benefits of resource extraction with the need to provide other land uses.

Mineral resources are identified and classified in the State by CGS, which implements the State's Mineral Land Classification Project in compliance with SMARA. CGS identifies and maps the lands containing significant mineral deposits, and classifies the areas into Mineral Resource Zones (MRZs) according to

their mineral resource potential. Classification is based on geologic and economic factors without regard to existing land use or land ownership; mineral resource significance is based on whether the land is actively mined under a valid permit or meets established criteria of marketability and threshold value. Four MRZ primary categories are used in classifying mineral resources (SMGB 2009). These categories are as follows:

- **MRZ-1** – Available information indicates that significant mineral resources are not present or little likelihood exists for their presence.
- **MRZ-2a** – Geologic data indicate that significant mineral resources underlie the area. Lands included in this category are of prime importance because they contain known economic mineral deposits.
- **MRZ-2b** – Geologic data indicate that significant mineral resources underlie the area. The area has discovered deposits that are either inferred reserves or deposits that are presently subeconomic as determined by limited sample analysis, exposure, and past mining history. With future advances in technology or changes in economics, the area could be upgraded to MRZ-2a.
- **MRZ-3a** – The area is considered to have a moderate potential for the discovery of economic mineral deposits. Further exploration work could result in the reclassification of specific localities into the MRZ-2a or MRZ-2b categories.
- **MRZ-3b** – The geologic evidence leads to the plausible conclusion that economic mineral deposits are present in the area and that it is in a geologic setting that appears to be a favorable environment for the occurrence of specific mineral deposits.
- **MRZ-4** – Knowledge about mineral occurrence in the area is lacking.

Of the four primary MRZ classifications, the MRZ-2 classification is perhaps the most important for land use planning because of the high likelihood for occurrence of substantial mineral deposits in such areas. The State Mining and Geology Board may determine that some MRZ-2a or MRZ-2b areas contain mineral resources with statewide or regional significance and initiate a public process for designation. Designated areas are incorporated into State regulations (14 Cal. Code Regs. Division 2, Chapter 8, Subchapter 1, Article 2). Such designations require that a lead agency's land use decisions involving these areas be made in accordance with its established mineral resource management policies, and they require consideration of the importance of the designated mineral resource to the market region or state as a whole, not just its importance to the lead agency's area of jurisdiction (Pub. Resources Code section 2763).

Each commercial mineral resources operation also is required by SMARA to meet the provisions of Pub. Resources Code section 2717(b).

## 11.3 Local Regulatory Framework

Designation of significant mineral resource zones requires local jurisdictions to consider these areas when providing discretionary approvals for projects that could affect those resources. Therefore, local governments have adopted general plans, policies, codes, and ordinances to incorporate provisions of SMARA that protect significant mineral resources from incompatible land uses and regulate mining operations and reclamation. Local permits are generally required for mining activities; the permits require submittal of a mitigation or reclamation plan, in accordance with SMARA.

## *11.3.1 Sacramento County*

### 11.3.1.1 Sacramento County General Plan

The *Sacramento County General Plan* discusses mineral resources related to natural gas in the Public Facilities Element. The following policies are specific to the preservation of minerals in the Delta (Sacramento County 1993, p. 48):

- **PF 117:** New natural gas wells will be subject to the permitting process as regulated by the State Conservation Department, Division of Oil Gas, and Geothermal Resources as well as Sacramento County Zoning Code Section 301-19.
- **PF-l 18:** Route new high pressure gas mains within railway and electric transmission corridors, along collector roads, and wherever possible, within existing easements. If not feasible these gas mains shall be placed as close to the easement as possible.

## *11.3.2 Yolo County*

### 11.3.2.1 Yolo County General Plan

The *Yolo County 2030 Countywide General Plan* discusses mineral resources in the Conservation and Open Space Element. Goals and policies seek to protect and enhance mined aggregate and natural gas (Yolo County 2009, p. CO-43). Aggregate mining in the Cache Creek MRZ-2 area is further regulated by the Off Channel Mining Plan, a component of the Cache Creek Area Plan that was prepared to protect groundwater, agriculture, and ecosystem restoration. The Cache Creek Area Plan also includes the Cache Creek Resources Management Plan. Yolo County also has adopted an In-Channel Maintenance Mining Ordinance that regulates limited maintenance extraction in specific areas, such as Lower Cache Creek. The following policies are specific to the preservation of minerals in the Delta (Yolo County 2009, p. CO-46):

- **Policy CO-3.1:** Encourage the production and conservation of mineral resources, balanced by the consideration of important social values, including recreation, water, wildlife, agriculture, aesthetics, flood control, and other environmental factors.
- **Policy CO-3.2:** Ensure that mineral extraction and reclamation operations are compatible with land uses both on-site and within the surrounding area, and are performed in a manner that does not adversely affect the environment.
- **Policy CO-3.3:** Encourage the extraction of natural gas where compatible with both on-site and surrounding land uses, and when performed in a manner that does not adversely affect the environment.
- **Policy CO-3.4:** Within the Delta Primary Zone, ensure compatibility of permitted land use activities with applicable, properly adopted natural gas policies of the Land Use and Resource Management Plan of the Delta Protection Commission.

### 11.3.2.2 City of West Sacramento General Plan

The City of West Sacramento includes gravel pits and natural gas wells (City of West Sacramento 2009, p. 8-50). The existing general plan does not include specific policies associated with mineral resources.

## *11.3.3 Solano County*

### 11.3.3.1 Solano County General Plan

The *Solano County General Plan* discusses mineral resources as part of the Resources chapter (Solano County 2008, pp. RS-32 and RS-33). Minerals within the Delta and the Suisun Marsh areas of Solano

County include aggregate mining, and natural gas wells and well fields. The following policies are specific to the preservation of minerals in the Delta (Solano County 2008, p. RS-35):

- **RS.P-33:** The County shall preserve, for future use, areas with important mineral resources by preventing residential, commercial, and industrial development that would be incompatible with mining practices to the extent feasible.
- **RS.P-34:** Ensure that mineral extraction operations are performed in a manner compatible with land uses on the site and surrounding area and do not adversely affect the environment. At the end of such operations, ensure that the site is restored to conform with Surface Mining and Reclamation Act requirements and to a use compatible with surrounding land uses.

#### 11.3.3.2 City of Rio Vista General Plan

The City of Rio Vista general plan does not include specific policies associated with mineral resources.

#### 11.3.3.3 City of Suisun City General Plan

The City of Suisun City general plan does not include specific policies associated with mineral resources.

#### 11.3.3.4 City of Fairfield General Plan

The *City of Fairfield General Plan* discusses mineral resources as part of the Open Space Element (City of Fairfield 2002, p. OS-37). There are no specific policies associated with mineral resources.

#### 11.3.3.5 City of Benicia General Plan

The *City of Benicia General Plan* discusses mineral resources as part of the Community Identity chapter (City of Benicia 1999, pp. 137-138). The following policies are specific to the preservation of minerals in the Delta (City of Benicia 1999, p. 138):

- **Goal 3.25:** Conserve and, where appropriate, develop the mineral resources of regional significance within the Planning Area.
- **Policy 3.25.1:** Maintain in open space the mineral resource area of regional significance designated on Sulphur Springs Mountain until a mineral resource extraction and reclamation plan that addresses all potentially significant impacts of extraction has been approved by the responsible agencies.
- **Goal 3.26:** Minimize environmental impacts of mineral production.
- **Policy 3.26.1:** Minimize exposure of the quarry face from residential areas.
- **Policy 3.26.2:** Allow extraction of mineral resources within the Planning Area but beyond the currently permitted quarry area on Sulphur Springs Mountain, only upon approval by the appropriate agencies.
- **Policy 3.26.3:** Maintain a variable ridgeline and natural landform representative of the scenic character of the Planning Area.
- **Policy 3.26.4:** Prohibit extraction of mineral resources outside the State-designated mineral resource area, and permit extraction of mineral resources inside the State-designated mineral resource area only if applicable policies, mitigation measures, performance standards, rules, and regulations are met.
- **Policy 3.26.5:** Require mitigations, setbacks, buffers.

- **Policy 3.26.6:** Require that residential buildings to be constructed within 2,000 feet of the ultimate mineral extraction boundary be analyzed by a qualified engineer to ensure economically feasible measures that minimize the amplification of ground vibration.

## *11.3.4 San Joaquin County*

### 11.3.4.1 San Joaquin County General Plan

Several areas are designated aggregate mineral resources in San Joaquin County within the Delta, including within the unincorporated and incorporated areas. The following policies are specific to the preservation of mineral resources (San Joaquin County 1992, p. VI-16):

- Mineral deposits of significant quantity, value, or quality, as identified by the State Division of Mines and Geology reports as MRZ-2 Mineral Resource Zones, shall remain in open space uses until extraction of resources, unless the immediate area has been committed to other uses.
- Mined lands shall be reclaimed as soon as reasonably possible.
- The County shall permit the development of its oil and natural gas resources, provided that such development ensures adequate protection to the resource and the environment, protects public health and safety, and is compatible with the current and projected uses of the land.

### 11.3.4.2 City of Tracy General Plan

Several areas are designated aggregate mineral resources near Tracy. The following policies are specific to the preservation of mineral resources (City of Tracy 2011, pp. 6-20–6-22):

- **OSC-3.1 P1:** When reviewing land use proposals, the City shall take into account potentially available mineral resources on the property or in the vicinity of the project site.
- **OSC-3.2 P1:** Prior to approval of any new or expanded mining operation, the City shall ensure that the operation will not create significant nuisances, hazards or adverse environmental effects.
- **OSC-3.2 P2:** Mining operations shall comply with all applicable City policies and standards in the Municipal Code and noise standards in the Noise Element of the General Plan.
- **OSC-3.2 P3:** New or substantially expanded mining operations in the Planning Area shall adhere to the following standards:
  - Demonstrate no significant adverse impacts from the mining operation on adjoining areas and uses including, but not limited to noise, dust and vibration.
  - Demonstrate no substantial increase in hazards to neighboring uses, water quality, air quality, agricultural resources or biological resources.
  - Demonstrate that the proposed plan complies with existing applicable County and State waste management plans and standards.
  - Create a landscaped buffer zone between quarrying operations and all adjacent uses other than quarries.
  - Use berms, barriers, sound walls, and other similar measures to assure that noise from quarrying does not exceed ambient noise level standards relevant to noise-sensitive adjacent uses.
  - Demonstrate that the operation can be serviced by existing truck routes.

#### 11.3.4.3 City of Lathrop General Plan

The City of Lathrop general plan does not include specific policies associated with mineral resources.

#### 11.3.4.4 City of Stockton General Plan

The City of Stockton general plan does not include specific policies associated with mineral resources.

#### 11.3.4.5 City of Manteca General Plan

The City of Manteca general plan does not include specific policies associated with mineral resources.

- **OSC-3.3 P1:** Mined property shall be left in a condition suitable for reuse in conformance with the General Plan land use designations and in accordance with the California Surface Mining and Reclamation Act (SMARA).
- **OSC-3.3 P2:** Once mining operations are phased out, lands designated as Aggregate may be redeveloped.

### *11.3.5 Contra Costa County*

#### 11.3.5.1 Contra Costa County General Plan

No designated aggregate mineral resources are in Contra Costa County within the Delta, including within the unincorporated and incorporated areas. The *Contra Costa County General Plan 2005–2020* discusses oil and gas resources in the Conservation Element. The following policies are specific to the preservation of mineral resources (Contra Costa County 2005, pp. 8-41 and 8-42):

- **8-69:** The production of gas and oil resources shall be encouraged as a way to support the agricultural viability of rural areas.
- **8-70:** New wells shall be reviewed and approved in a fashion to minimize noise, aesthetics and public safety problems.
- **8-71:** The potential impacts of oil and gas extraction on the subsistence of land, especially land near bodies of water and in the Delta, should be investigated. If necessary, special regulations should be proposed and applied to existing operations.
- **8-72:** New wells shall not be allowed to be drilled in wetland areas.
- **8-73:** Where safety can be assured, the storage of gas in underground natural basins shall be considered preferable to above ground tanks.

#### 11.3.5.2 City of Oakley General Plan

The City of Oakley general plan does not include specific policies associated with mineral resources.

#### 11.3.5.3 City of Antioch General Plan

The City of Antioch general plan does not include specific policies associated with mineral resources.

#### 11.3.5.4 City of Pittsburg General Plan

The City of Pittsburg general plan does not include specific policies associated with mineral resources.

#### 11.3.5.5 City of Brentwood General Plan

The *City of Brentwood General Plan* discusses mineral resources in the Conservation/Open Space Element. The following policies are specific to the preservation of mineral resources (City of Brentwood 1993, p. IV.1-7):

- **Policy 6.1 - Mine Reuse:** Ensure that areas of mineral resources can be mined while productive, and are ultimately reused for urbanization or open space.
  - **6.1.1 - Resource Extraction:** Allow resource extraction of gas and oil as an interim use.
  - **6.1.2 - Reclamation Plans:** Work with property owners to develop reclamation plans for areas with mineral resources.
  - **6.1.3 - Mining Ordinance:** Implement the Oil and Gas Mining ordinance.
  - **6.1.4 - Identify and Evaluate Resources:** Identify and evaluate areas within the planning area with potential resource value, including oil, gas, sand, and gravel.

# 12.0 Hazards and Hazardous Materials Regulatory Framework

This section provides an overview of the plans, policies, and regulations relating to hazards and hazardous materials within the study area.

## 12.1 Federal Regulatory Framework

This section describes federal statutes that provide the regulatory basis for assessing the potential hazardous materials, hazardous waste, or hazardous constituents that may be present in the Delta and Suisun Marsh.

### *12.1.1 Comprehensive Environmental Response, Compensation, and Liability Act*

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 USC section 9601 et seq.) established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. The Superfund Amendments and Reauthorization Act of 1986 (SARA) amended CERCLA in 1986, making additions to the program such as new enforcement authorities and governance of hazardous substances. Title III of SARA authorized the Emergency Planning and Community Right-to-Know Act.

### *12.1.2 Resource Conservation and Recovery Act*

The Resource Conservation and Recovery Act of 1976 (RCRA) (42 USC section 6901 et seq.) was enacted in 1974 as the first step in regulating the potential health and environmental problems associated with solid hazardous and nonhazardous waste disposal. The Hazardous and Solid Waste Act includes the 1984 amendments to RCRA to address gaps in the area of highly toxic wastes. The 1986 RCRA amendments enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. RCRA also set forth a framework for the management of nonhazardous solid wastes. RCRA section 3006 provides USEPA with the authority to authorize State hazardous waste programs. Once authorized, the State program operates in lieu of the federal program, although USEPA retains enforcement authority even after a State program has been authorized.

### 12.1.3 Toxic Substances Control Act

The Toxic Substances Control Act of 1976 (TSCA) (15 USC section 2601 et seq.) regulates and controls harmful chemicals and toxic substances in commercial use. TSCA gives USEPA the ability to track the 75,000 industrial chemicals currently produced in the United States, imported into the United States, and disposed of in the United States, and can require reporting or testing of those that may pose an environmental or human health hazard. Specific chemicals regulated under TSCA include polychlorinated biphenyls, asbestos, radon, and lead-based paint.

### 12.1.4 Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (USC section 136 et seq., 1996) provides for federal regulation of pesticide distribution, sale, and use. All pesticides distributed or sold in the United States must be registered (licensed) by USEPA. Before USEPA may register a pesticide under FIFRA, the applicant must show that, among other things, using the pesticide according to specifications "will not generally cause unreasonable adverse effects on the environment." FIFRA imposes pesticide labeling requirements; controls when and under what conditions pesticides can be applied, mixed, stored, loaded, or used; specifies when fields can be re-entered after application; and identifies when crops can be harvested. Under FIFRA, registrations and product labeling may restrict uses of pesticides. As a part of the pesticide registration, USEPA classifies the product or some uses of the product as "restricted use" if they may cause unreasonable adverse effects even when used as directed on the product labeling. Restricted-use pesticides are limited to use by certified pesticide applicators.

### 12.1.5 Clean Air Act

Regulations (40 CFR Part 68) under the Clean Air Act are designed to prevent accidental releases of hazardous materials. The regulations require facilities storing a threshold quantity or greater of listed regulated substances to develop a risk management plan, including hazard assessments and response programs to prevent accidental releases of listed chemicals. Section 112(r)(5) of the CAA discusses the regulated substances. These substances are listed in 40 CFR Part 68.130.

### 12.1.6 Clean Water Act

The Spill Prevention, Control, and Countermeasures (SPCC) program under the Clean Water Act is designed to prevent or contain the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Regulations (40 CFR Part 112) under the CWA require facilities to prepare a written SPCC plan if they store oil and its release would pose a threat to navigable waters. The SPCC rule is applicable if a facility has a single, oil aboveground storage tank (AST) with a capacity greater than 660 gallons, total petroleum storage (including ASTs, oil-filled equipment, and drums) greater than 1,320 gallons, or underground storage capacity greater than 42,000 gallons. Section 402(p) of the CWA established a framework for regulating contaminants in stormwater discharges under the NPDES program.

### 12.1.7 Oil Pollution Act of 1990

The Oil Pollution Act of 1990 requires certain onshore and offshore facilities that store and use oil and that could reasonably be expected to cause substantial harm to the environment to prepare plans to respond to a worst-case discharge of oil and to a substantial threat of such a discharge to navigable waters. The response plans must be implemented should such a release occur.

### 12.1.8 Safe Drinking Water Act (Underground Injection Control Program)

The SDWA was originally passed by Congress in 1974, to protect public health by regulating the nation's public drinking water supply. The SDWA authorizes USEPA to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be

found in drinking water. USEPA, State regulatory agencies, and water systems managers then work together to make sure that these standards are met. The law was amended in 1986 and 1996, and requires many actions to protect drinking water and its sources, including rivers, lakes, reservoirs, springs, and groundwater wells. USEPA protects groundwater sources of drinking water, in part, through the Underground Injection Control Program. This program regulates substances (including hazardous and radioactive substances) that can be injected or placed into the ground above or below a source of drinking water.

### *12.1.9 Federal Railroad Administration*

The Federal Railroad Administration is responsible for promulgating and enforcing rail safety regulations. These regulations are 49 CFR Parts 200 to 299.

## 12.2 State Regulatory Framework

This subsection presents information about California laws and their relationship to hazardous materials.

### *12.2.1 Hazardous Waste Control Law*

Hazardous Waste Control Law empowers the California Department of Toxic Substances Control (DTSC) to administer the State's hazardous waste program and implement the federal program in California. This law includes regulations on underground storage tanks (UST). DTSC is appointed as the Certified Unified Program Agency in Imperial County and manages regulation and permitting of businesses that handle hazardous materials and waste regulation.

### *12.2.2 Health and Safety Code Sections 25500 and 25531*

Health & Saf. Code section 25500 regulates business and area plans relating to the inventory, handling, and release or threatened release of hazardous materials. Health & Saf. Code section 25531 implements the federal regulations under the CAA for the prevention of accidental releases of regulated substances, with certain State-specific amendments.

### *12.2.3 Porter-Cologne Water Quality Control Act*

The Porter-Cologne Act, described in Section 1.0, Water Resources Regulatory Framework, requires the maintenance of the highest reasonable quality of the State's waters. It authorizes the RWQCB to supervise cleanup efforts at spill sites that have affected groundwater.

The Porter-Cologne Act (codified within the Wat. Code) allows RWQCBs to impose more stringent requirements on discharges than statewide requirements.

In addition, the California Highway Patrol and Caltrans regulate container types and license hazardous waste haulers for hazardous waste transportation on public roads.

### *12.2.4 California Hazardous Substance Account Act*

The California Hazardous Substance Account Act (the State's equivalent to CERCLA) was adopted in 1999 and is codified in the Health & Saf. Code, Division 20, Chapter 6.8. It requires past and present owners and operators to assume liability for the remediation of hazardous waste sites within California. The regulations also provide the following:

- Response authority for releases of hazardous substances, including spills and hazardous waste disposal sites
- Compensation for medical expenses and lost wages or business income resulting from injuries caused by exposure to releases of hazardous substances

- Funds for the State to assure payment of its 10 percent share of the costs mandated pursuant to section 104(c)(3) of CERCLA (42 USC section 9604(c)(3))

Similar to the 1996 CERCLA amendments, to encourage cleanup of sites, the California Land Reuse and Revitalization Act of 2004 was codified in the Health & Saf. Code sections 25395.60 to 25395.105. This chapter encourages the development and redevelopment of urban properties; provides processes that ensure remediation to protect public health, safety, and the environment; and relieves innocent owners, bona fide prospective purchasers, and owners of property adjacent to contaminated sites of liabilities and responsibilities that should be borne by those who caused or contributed to the contamination.

Health & Saf. Code section 25356.1 requires DTSC or RWQCB to prepare or approve remedial action plans for sites where hazardous substances were released to the environment if they are listed as Superfund sites. RWQCB has the responsibility to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality (see Wat. Code section 4.20.2.2.9).

### *12.2.5 Underground Storage Tanks*

The California Underground Storage Program is designed to prevent contamination from, and improper storage of, hazardous substances stored underground; to ensure that existing tanks are properly maintained, inspected, tested, and upgraded; and to ensure that new USTs meet appropriate standards. The California regulations are codified in the Health & Saf. Code sections 25280 to 25299.8.

### *12.2.6 Aboveground Petroleum Storage Act of 2007*

California adopted a statewide program to determine the amount and type of hazardous substances being stored in ASTs under the Health & Saf. Code sections 25270 to 25270.23.

### *12.2.7 Toxic Injection Well Control*

Injection of hazardous wastes is regulated under the Toxic Injection Well Control Act of 1985, Health & Saf. Code sections 25159.10 to 25159.25. These regulations prohibit any injection of hazardous wastes into or above drinking water sources and prohibit injection of hazardous waste below drinking water sources to prevent hazardous wastes from migrating to State drinking water or otherwise endangering the environment.

The Safe Drinking Water and Toxics Enforcement Act of 1986 was codified in the Health & Saf. Code sections 25249.5 to 25249.13. These regulations prohibit the knowing contamination of drinking water (including groundwater) with carcinogens or chemicals with reproductive toxicity.

### *12.2.8 Hazardous Waste Program*

Under this program, the State is authorized to administer a hazardous waste program equivalent to the federal RCRA program. Generation, transportation, treatment, storage, and disposal of characteristic and listed hazardous wastes are regulated under the Health & Saf. Code sections 25100 to 25250.28.

As part of hazardous waste regulation, the Health & Saf. Code sections 25250 through 25250.28, regulates polychlorinated biphenyls in used oil and prohibit used oil recycling or reuse if the oil contains 5 parts per million or greater of polychlorinated biphenyls.

### *12.2.9 California Solid Waste*

Solid waste in California is regulated under 14 Cal. Code Regs. Division 7 and 27 Cal. Code Regs. Division 2. These regulations establish minimum standards for the handling and disposal of solid wastes. Both the SWRCB and the California Integrated Waste Management Board have oversight and approval authority over local enforcement agencies that permit and take enforcement action on solid waste

management facilities. Pub. Resources Code sections 43200 to 43219, 43020, 43020.1, 43021, 43030, 43101, and 43103 created and govern the local enforcement agencies.

### 12.2.10 Control of Pesticides

Similar to the USEPA FIFRA program, the California Legislature enacted the Food and Agricultural Code to promote and protect the agricultural industry, and to protect public health, safety, and welfare. The Food and Agriculture Code (Food & Agr. Code) sections 11401 to 14155 regulate pest control operations, application of pesticides, and applicators, and restrict the use of some pesticides.

### 12.2.11 Hazardous Materials Release Response Plans and Inventory

California's equivalent to SARA was codified in the Health & Saf. Code sections 25500 to 25545. This code requires businesses to prepare a hazardous materials management plan relating to the handling and release or threatened release of hazardous materials. It establishes minimum statewide standards for contents of plans, including location, type, quantity, and health risks of hazardous materials handled, used, stored, or disposed of that could be accidentally released into the environment. It ensures firefighters, health officials, planners, public safety officers, health care providers, regulatory agencies, and other interested persons have access to the plans.

### 12.2.12 Water Code

Wat. Code Division 7, Chapter 5 requires SWRCB and DTSC to establish policies and procedures for investigation of, and remediation and abating the effects of, a discharge of a hazardous substance that creates, or threatens to create, a condition of contamination, pollution, or nuisance. The policies and procedures must be consistent with the policies and procedures established pursuant to Health & Saf. Code section 25355.7. The policies and procedures are established in SWRCB Resolution No 92-49.

### 12.2.13 California Law for Conservation of Petroleum

The California Law for Conservation of Petroleum (Division 3, Oil and Gas, Chapter 1, Oil and Gas Conservation) regulates operators of oil wells and oil production facilities. Sections within Chapter 1 govern notices of intent to drill wells, proper abandonment of oil wells to ensure protection of surface and groundwater, and abandonment of old wells that pose a present danger to life, health, or naturals resources (land, air, and water). Sections also establish emergency reporting requirements for oil discharges to land.

### 12.2.14 State Board Resolution No. 92-49

SWRCB adopted Resolution No. 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges, under Wat. Code section 13304. This resolution establishes policies and detailed procedures for all investigations and remediation of any discharge (release) that causes, or threatens to cause, conditions of soil, water pollution, or nuisance associated with migration of waste or fluid from waste management units. The resolution also requires coordination among other agencies including DTSC, USEPA, and local governances.

### 12.2.15 Fire Hazard Severity Zones

In accordance with Pub. Resources Code sections 4201 to 4204 and Gov. Code sections 51175 to 51189, CAL FIRE has mapped areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. The zones are referred to as Fire Hazard Severity Zones and represent the risks associated with wildland fires. Under CAL FIRE regulations, areas within very high fire-hazard risk zones must comply with specific building and vegetation requirements intended to reduce property damage and loss of life within these areas.

### 12.2.16 Mosquito Abatement Act

In 1915, the State Legislature enacted the Mosquito Abatement Act, which allowed local mosquito abatement organizations to form into specific special districts. Mosquito abatement districts use a combination of abatement procedures to control mosquitoes. Generally, mosquito control methods used selectively, singly, or in combination include biological agents, such as mosquitofish, which eat mosquito larvae; source reductions, such as draining the water bodies that produce mosquitoes; pesticides; ecological manipulations of mosquito breeding habitat; and public education on preventive measures.

## 12.3 Local Regulatory Framework

### 12.3.1 Certified Unified Program Agencies

The Unified Program (Cal/EPA 2009) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. California Environmental Protection Agency (Cal/EPA) and other State agencies set the standards for their programs, and local governments implement the standards. These local implementing agencies are called Certified Unified Program Agencies. For each county, Certified Unified Program Agencies regulate and oversee the following:

- Hazardous materials business plans
- California accidental release prevention plans or federal risk management plans
- The operation of ASTs and USTs
- Universal waste and hazardous waste generators and handlers
- On-site hazardous waste treatment
- Inspections, permitting, and enforcement
- Proposition 65 reporting
- Emergency response

# 13.0 Noise Regulatory Framework

## 13.1 Federal Regulatory Framework

There are no federal plans, policies, and regulations related to noise that are relevant to the Delta Plan. To address the human response to groundborne vibration, the Federal Transit Administration of the U.S. Department of Transportation has set forth guidelines for maximum-acceptable vibration criteria for different types of land uses. These guidelines allow 65 vibration decibel notation (VdB), referenced to 1 microinch per second and based on the root-mean-square velocity amplitude, for land uses where low ambient vibration is essential for interior operations (e.g., hospitals, high-tech manufacturing, laboratory facilities); 80 VdB for residential uses and buildings where people normally sleep; and 83 VdB for institutional land uses with primarily daytime operations (e.g., schools, churches, clinics, offices) (FTA 2006). Standards have also been established to address the potential for groundborne vibration to cause structural damage to buildings. These standards were developed by the Committee on Hearing, Bioacoustics, and Biomechanics at the request of the USEPA (FTA 2006). For fragile structures, the Committee on Hearing, Bioacoustics, and Biomechanics recommends a maximum limit of 0.25 inch per second peak particle velocity (FTA 2006).

# 13.2 State Regulatory Framework

The *State of California General Plan Guidelines* (OPR 2003, p. 250) provide guidance regarding the acceptability of projects within specific day-night average level ($L_{dn}$) contours. The document does not present an adopted standard; rather, it provides guidelines for cities and counties to use in developing their own standards (see Figure D-3). Generally, residential uses (e.g., mobile homes) are considered to be acceptable in areas where exterior noise levels do not exceed 60 decibels, A-weighted (dBA) $L_{dn}$. Residential uses are normally unacceptable in areas where exterior noise levels exceed 70 dBA $L_{dn}$ and conditionally acceptable in areas where levels are in the range of 55–70 dBA $L_{dn}$. Schools are normally acceptable in areas with exterior noise levels up to 70 dBA $L_{dn}$ and normally unacceptable in areas with levels exceeding 70 dBA $L_{dn}$.

Commercial uses are normally acceptable in areas with exterior noise levels up to 70 dBA community noise equivalent level (CNEL). Levels between 67.5 and 77.5 dBA $L_{dn}$ for commercial uses are conditionally acceptable, depending on the noise insulation features and the noise reduction requirements. The guidelines also present adjustment factors that may be used to determine noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

# 13.3 Local Regulatory Framework

Gov. Code section 65302(f) requires city and county general plans to include a noise element. Noise elements typically establish acceptable noise level criteria for transportation and stationary noise sources to guide future development and reduce land use conflicts. Some jurisdictions in the Delta and the Suisun Marsh have established noise ordinances in their municipal codes. Noise ordinances establish limits that may be enforced by assigning penalties or taking other actions. A noise ordinance generally must not be exceeded, whereas general plan limits are to be considered during the development of a project and may not be strictly applied depending on the particular circumstances of the project.

## *13.3.1 Sacramento County*

### 13.3.1.1 Sacramento County General Plan

The existing *Sacramento County General Plan* Noise Element (Sacramento County 1993) states that noise created by new nontransportation sources may not exceed the noise level standards shown in Table D-6. These performance standards are measured immediately within the property line of any affected residentially designated land or residential land use situated in the unincorporated areas.

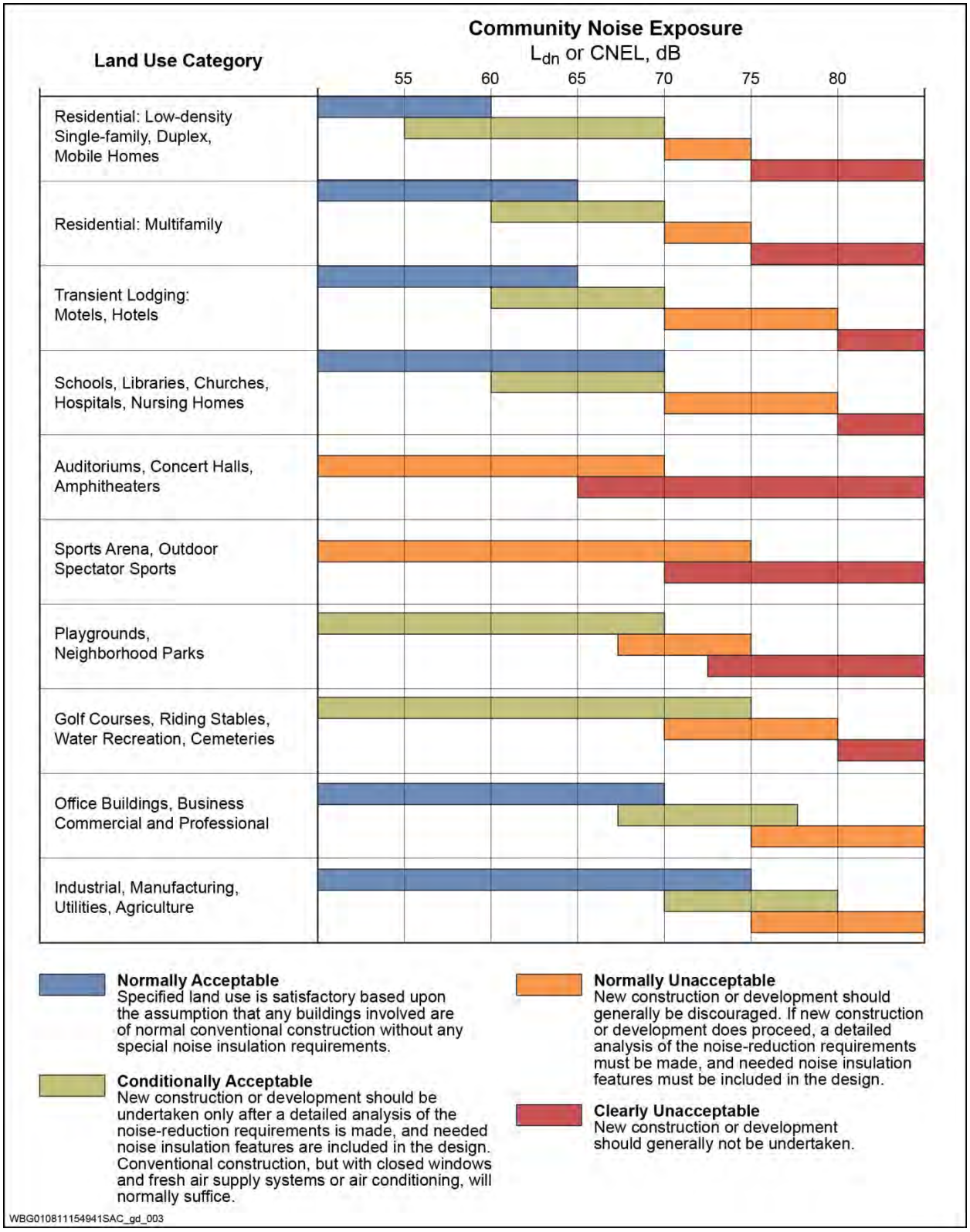
Table D-6
Existing Sacramento County Noise Level Performance Standards
*Exterior Noise Levels (dBA)*

| | Daytime | | Nighttime | |
|---|---|---|---|---|
| **Receiving Land Use** | **$L_{50}$** | **$L_{max}$** | **$L_{50}$** | **$L_{max}$** |
| Residential | 50 | 70 | 45 | 65 |

Source: Sacramento County 1993, p. 10

Table D-7 shows the interior and exterior noise level performance standards for nontransportation noise sources existing in noise-sensitive areas.

5086 Figure D-3
5087 Guidelines for Evaluating Compatibility of Land Uses
5088 *Source: OPR 2003*




5089

Table D-7
Draft Sacramento County Noise Level Performance Standards

| | Exterior Noise Levels (dBA) | | | | Interior Noise Levels (dBA) | |
|---|---|---|---|---|---|---|
| | Daytime | | Nighttime | | Anytime | |
| Receiving Land Use | $L_{50}$ | $L_{max}$ | $L_{50}$ | $L_{max}$ | $L_{50}$ | $L_{max}$ |
| All residential | 55 | 75 | 50 | 70 | 35 | 55 |
| Transient lodging | 55 | 75 | — | — | 35 | 55 |
| Hospitals and nursing homes | 55 | 75 | — | — | 35 | 55 |
| Theaters and auditoriums | — | — | — | — | 30 | 50 |
| Churches, meeting halls, schools, libraries, etc. | 55 | 75 | — | — | 35 | 60 |
| Office buildings | 60 | 75 | — | — | 45 | 65 |
| Commercial buildings | — | — | — | — | 45 | 65 |
| Playgrounds, parks, etc. | 65 | 75 | — | — | — | — |
| Industry | 60 | 80 | — | — | 50 | 70 |

Source: Sacramento County 2009, p. 14

Sacramento County Code section 6.68, Noise Control, states that exterior noise shall not exceed 50 dBA between 10:00 p.m. and 7:00 a.m. and 55 dBA between 7:00 a.m. and 10:00 p.m. for residential and agricultural areas. Construction activities between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday and 7:00 a.m. and 8:00 p.m. on weekends are exempt from this ordinance. Construction may be allowed to continue past these limits when an unforeseen or unavoidable condition occurs and the nature of the project requires work to continue until a specific amount of work is completed that will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner (Sacramento County 2011).

#### 13.3.1.2 City of Sacramento General Plan

Noise standards for the City of Sacramento include noise compatibility standards for the land uses shown in Table D-8.

Table D-8
City of Sacramento Existing Exterior Noise Level Compatibility Standards

| Land Use Type | Highest Level of Noise Exposure Regarded as "Normally Acceptable" (Ldn or CNEL) (dBA) |
|---|---|
| Residential: low-density single family, duplex, mobile homes | 60 |
| Residential: multifamily | 65 |
| Urban residential infill and mixed-use projects | 70 |
| Transient lodging: motels, hotels | 65 |
| School, libraries, churches, hospitals, nursing homes | 70 |
| Auditoriums, concert halls, amphitheaters | Mitigation based on site-specific study |
| Sports arena, outdoor spectator sports | Mitigation based on site-specific study |
| Playgrounds, neighborhood parks | 70 |
| Golf courses, riding stables, water recreation, cemeteries | 75 |
| Office buildings: business, commercial, and professional | 70 |
| Industrial, manufacturing, utilities, agriculture | 75 |

Source: City of Sacramento 2009, p. 2-338

#### 13.3.1.3 City of Elk Grove General Plan

The existing Elk Grove General Plan Noise Element (City of Elk Grove 2003) states that noise created by stationary and transportation sources may not exceed the noise level standards shown in Tables D-9 and D 10.

Table D-9
Existing Elk Grove Noise Level Performance Standards for Typical Stationary Sources

| Measurement | Daytime (7:00 a.m.–10:00 p.m.) | Nighttime (10:00 p.m.–7:00 a.m.) |
|---|---|---|
| Hourly Leq, dB | 55 | 45 |

Source: City of Elk Grove 2003, p. 156

Table D-10
City of Elk Grove Maximum Allowable Noise Exposure Transportation Noise Sources

| Land Use Type | Outdoor Activity Area (Ldn or CNEL) (dBA)a |
|---|---|
| Residential | 60[b] |
| Transient lodging: motels, hotels | 60[c] |
| Hospitals, nursing homes, churches, meeting halls | 60 |
| Playgrounds, neighborhood parks | 70 |

Source: City of Elk Grove 2003, p. 158

[a] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patios or balconies of apartment complexes, a common area, such as a pool or recreation area, may be designated as the outdoor activity area.

[b] Where it is not possible to reduce noise in outdoor activity areas to 60 dB $L_{dn}$/CNEL or less, using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 dB $L_{dn}$/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

[c] In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

### *13.3.2 Yolo County*

#### 13.3.2.1 Yolo County General Plan

The existing *Yolo County General Plan*, which was recently updated (Yolo County 2009, p. HS-42), addresses limitations for noise sources based on the Governor's Office of Planning and Research (OPR) noise compatibility guidelines (see Figure D-3). Yolo County does not have a noise ordinance, but the 2009 General Plan recommends the adoption of a comprehensive noise ordinance by 2011.

#### 13.3.2.2 City of West Sacramento General Plan

The existing City of West Sacramento Zoning Ordinance Chapter 17.32.030 (City of West Sacramento 2011) sets noise level performance standards for new projects affected by or including nontransportation sources, as shown in Table D-11.

Table D-11
City of West Sacramento Existing Noise Level Performance Standards

| | Exterior Noise Levels (dBA) | | | | Interior Noise Levels (dBA) | |
|---|---|---|---|---|---|---|
| | Daytime (7:00 a.m.–10:00 p.m.) | | Nighttime (10:00 p.m.–7:00 a.m.) | | Daytime (7:00 a.m.–10:00 p.m.) | Nighttime (10:00 p.m.–7:00 a.m.) |
| Receiving Land Use | Hourly Leq | Lmax | Hourly Leq | Lmax | L50 | Lmax |
| All residential | 50 | 70 | 45 | 65 | 45 | 35 |
| Transient lodging | — | — | — | — | 45 | 35 |
| Hospitals and nursing homes | — | — | — | — | 45 | 35 |
| Theaters, auditoriums, music halls | — | — | — | — | 35 | 35 |
| Churches and meeting halls | — | — | — | — | 40 | 40 |
| Office buildings | — | — | — | — | 45 | 45 |
| Schools, libraries, museums | — | — | — | — | 45 | 45 |

Source: City of West Sacramento 2011

## *13.3.3 Solano County*

### 13.3.3.1 Solano County General Plan

*Solano County General Plan* Noise Element (Solano County 2008, p. HS 79-80) presents exterior noise standards based on those recommended by OPR's noise compatibility guidelines, as shown in Figure D-3.

### 13.3.3.2 City of Rio Vista General Plan

Noise standards for new uses affected by nontransportation noise in the City of Rio Vista are contained in the Safety and Noise Element of the city's General Plan (City of Rio Vista 2002). Table D-12 shows the standards for exterior noise levels during daytime and nighttime hours and for interior noise levels anytime.

Table D-12
City of Rio Vista Noise Standards for New Uses Affected by Nontransportation Noise

| | Exterior Noise Levels, $L_{eq}$, (dBA) | | Interior Noise Levels, $L_{eq}$, (dBA) |
|---|---|---|---|
| Receiving Land Use | Daytime | Nighttime | Anytime |
| All residential | 50 | 45 | 35 |
| Transient lodging | 55 | — | 40 |
| Hospitals and nursing homes | 50 | 45 | 35 |
| Theaters and auditoriums | — | — | 35 |
| Churches, meeting halls, schools, libraries, etc. | 55 | — | 40 |
| Office buildings | 55 | — | 45 |
| Commercial buildings | 55 | — | 45 |
| Playgrounds, parks, etc. | 65 | — | — |
| Industry | 65 | 65 | 50 |

Source: City of Rio Vista 2002, p. 11-37

#### 13.3.3.3 City of Suisun City General Plan

The *Suisun City General Plan* Noise and Safety chapter (City of Suisun City 1992, p. 106) includes noise standards that are consistent with those adopted by Solano County Health and Safety Element.

#### 13.3.3.4 City of Fairfield General Plan

The *City of Fairfield General Plan* Health and Safety Element presents noise performance standards for transportation and nontransportation noise sources (City of Fairfield 2002, pp. HS-11 through HS-15). Table D-13 shows the standards for ground transportation noise sources for outdoor activity areas and indoor spaces. Table D-14 shows the standards for nontransportation sources.

Table D-13
City of Fairfield Maximum Allowable Noise Exposure to Ground Transportation Noise Sources

| | Outdoor Activity Areas | Indoor Spaces | |
|---|---|---|---|
| Land Use | $L_{dn}$/CNEL, dB | $L_{dn}$/CNEL, dB | $L_{eq}$, dB Worst-case Hour |
| Residential | 60 | 45 | — |
| Transient Lodging | 60 | 45 | — |
| Hospitals, Nursing Homes | 60 | 45 | — |
| Theaters, Auditoriums, Music Halls | — | — | 35 |
| Churches, Meeting Halls | 60 | — | 40 |
| Office Buildings | — | — | 45 |
| Schools, Libraries, Museums | — | — | 45 |
| Playgrounds, Neighborhood Parks | 70 | — | — |

Source: City of Fairfield 2004, p. HS-14

Table D-14
City of Fairfield Noise Level Performance Standards for New Projects Affected by or Including Nontransportation Sources

| | Exterior Noise Level Standard, dB | | Interior Noise Level Standard, dB | |
|---|---|---|---|---|
| Receiving Land Use | 7 a.m. to 10 p.m. | 10 p.m. to 7 a.m. | 7 a.m. to 10 p.m. | 10 p.m. to 7 a.m. |
| Residential, $L_{eq}$, $L_{max}$ | 50, 70 | 45, 65 | 40, 60 | 35, 55 |
| Transient Lodging, Hospitals, Nursing Homes, $L_{eq}$, $L_{max}$ | —, — | —, — | 40, 60 | 35, 55 |
| Theaters, Auditoriums, Music Halls, $L_{eq}$ | — | — | 35 | 35 |
| Churches, Meeting Halls, $L_{eq}$ | — | — | 40 | 40 |
| Office Buildings, $L_{eq}$ | — | — | 45 | — |
| Schools, Libraries, Museums, $L_{eq}$ | — | — | 45 | — |
| Playgrounds, Parks, $L_{eq}$ | 65 | — | — | — |

Source: City of Fairfield 2004, p. H-15

### 13.3.3.5 City of Benicia General Plan

The Community Health and Safety chapter of the *City of Benicia General Plan* (City of Benicia 1999) contains noise exposure standards for proposed noise-sensitive land uses from transportation noise sources and stationary noise sources. (Stationary noise sources include industrial operations, outdoor recreation facilities, HVAC units, loading docks, and similar sources) Table D-15 shows the standards for outdoor and interior noise exposure for new noise-sensitive land uses that may be affected by transportation noise sources. Table D-16 shows the exterior and interior performance standards for proposed noise-sensitive land uses that may be affected by an existing stationary noise source.

Table D-15
City of Benicia Maximum Allowable Noise Exposure for New Noise-Sensitive Uses affected by Transportation Noise Sources

| | Outdoor Activity Areas | Indoor Spaces | |
|---|---|---|---|
| **Receiving Land Use** | **Leq, (dBA)** | **Leq/dB** | **Leq, dB Worst-case Hour** |
| Residential | 60 | 45 | — |
| Transient Lodging | 65 | 45 | — |
| Hospitals, Nursing Homes | 60 | 45 | — |
| Theaters, Auditoriums, Music Halls | — | — | 35 |
| Churches, Meeting Halls | 60 | — | 40 |
| Office Buildings, Commercial Uses, Industrial, Manufacturing, Utilities | — | — | 45 |
| Schools, Libraries, Museums | 60 | — | 45 |
| Playgrounds, Neighborhood Parks | 65 | — | — |

Source: City of Benicia 1999, p. 176

Table D-16
City of Benicia Noise Level Performance Standards for Noise-Sensitive Land Uses Which May Be Affected by Stationary Noise Sources

| | Exterior Hourly $L_{eq}$, dB | | Interior Hourly $L_{eq}$, dB | |
|---|---|---|---|---|
| **Receiving Land Use** | **7 a.m. to 10 p.m.** | **10 p.m. to 7 a.m.** | **7 a.m. to 10 p.m.** | **10 p.m. to 7 a.m.** |
| Residential | 55 | 50 | 40 | 35 |
| Transient Lodging | 55 | 50 | 40 | 35 |
| Hospitals | — | — | 40 | 35 |
| Nursing Homes | 55 | 50 | 40 | 35 |
| Theaters, Auditoriums | — | — | 35 | 35 |
| Churches | 55 | 50 | 40 | 40 |
| Schools | 55 | 50 | 45 | 45 |
| Libraries | 55 | 50 | 45 | 45 |

Source: City of Benicia 1999, p. 178

## *13.3.4 San Joaquin County*

### 13.3.4.1 San Joaquin County General Plan

The *San Joaquin County General Plan* (San Joaquin County 1992) includes hourly equivalent sound levels in residential areas and other sensitive-receptor land uses. For daytime hours, the standard is 50 dB from stationary sources. For nighttime hours, the standard is 45 dB for outdoor activities in residential areas and other sensitive-receptor land uses.

### 13.3.4.2 City of Tracy General Plan

The *City of Tracy General Plan* Noise Element (City of Tracy 2006) classifies exterior noise exposure levels by land use in terms of being normally acceptable, conditionally acceptable, and unacceptable, as shown in Figure D-4.

### 13.3.4.3 City of Lathrop General Plan

The Noise Element for the *Comprehensive General Plan for the City of Lathrop* (City of Lathrop 1991) states that areas within the city of Lathrop shall be designated to be affected by noise if the exteriors of buildings are exposed to existing noise levels that exceed 60 dB CNEL, or will be exposed to projected future noise levels that exceed 60 dB CNEL, or they do not meet the performance standards shown in Table D-17.

Table D-17
City of Lathrop Noise Level Performance Standards

| | Exterior Noise Level Standards (dBA) | | | | | |
|---|---|---|---|---|---|---|
| | Nighttime 10:00 p.m.–7:00 a.m. | | | Daytime 7:00 a.m.–10:00 p.m. | | |
| **Receiving Land Use** | **Rural** | **Suburban** | **Urban** | **Rural** | **Suburban** | **Urban** |
| One- and two-family residential | 40 | 45 | 50 | 50 | 55 | 70 |
| Multiple family residential | 45 | 50 | 55 | 50 | 55 | — |
| Public space | 50 | 55 | 60 | 50 | 55 | — |
| Limited commercial | — | 55 | — | — | 60 | — |
| Commercial | — | 60 | — | — | 65 | — |
| Light industrial | — | 70 | — | — | 70 | — |
| Heavy industrial | — | 75 | — | — | 75 | — |

Source: City of Lathrop 1991, pp. 6–10

### 13.3.4.4 City of Stockton General Plan

The existing *Stockton General Plan 2035* Noise Element (City of Stockton 2007) includes noise standards that are consistent with those adopted by San Joaquin County.

### 13.3.4.5 City of Manteca General Plan

The existing *City of Manteca General Plan 2023* (City of Manteca 2003) defines noise level performance standards for stationary noise sources, as shown in Table D-18.

5164 Figure D-4
5165 Land Use Compatibility for Community Noise Environment
5166 *Source: City of Tracy 2006, p. 9-18*
5167
5168

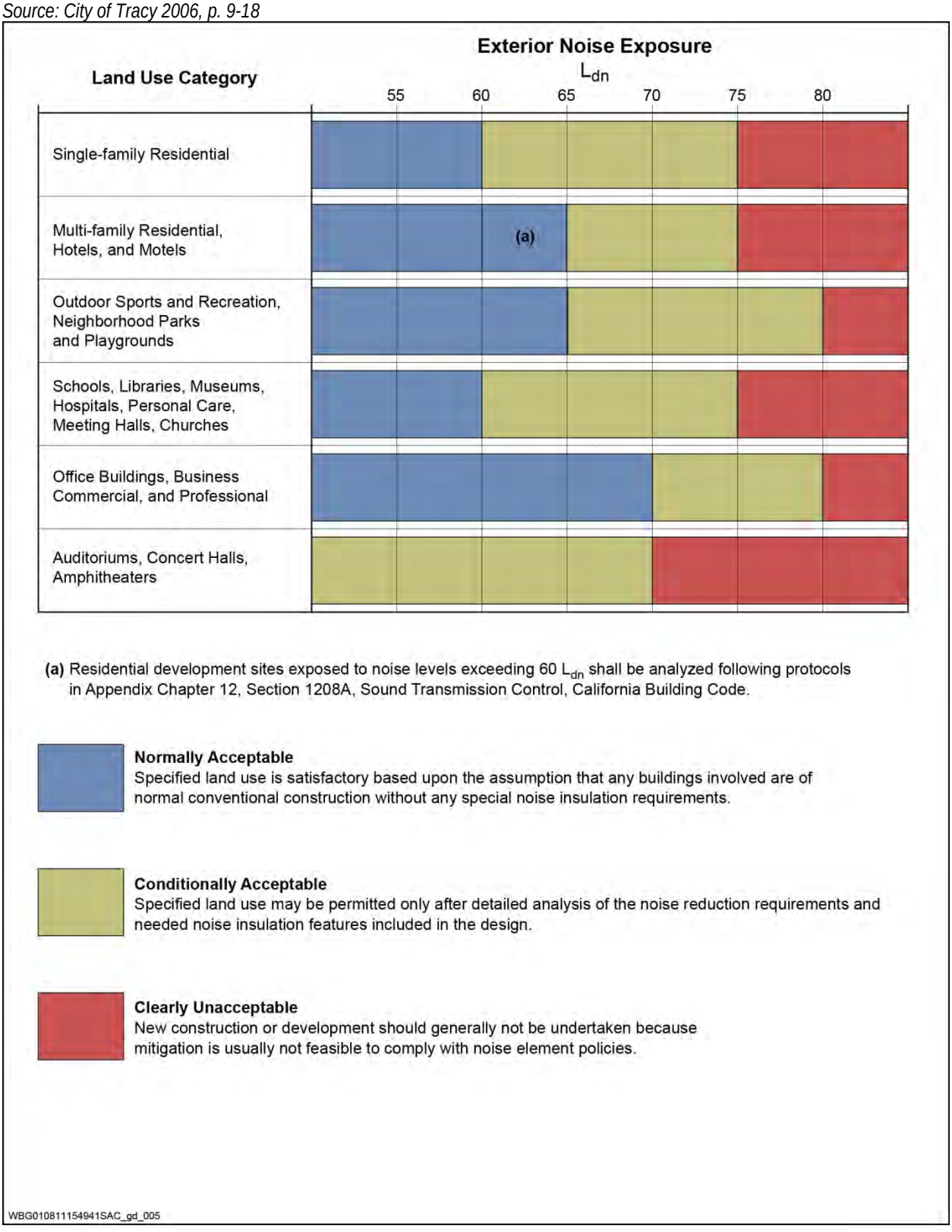


Table D-18
City of Manteca Noise Level Performance Standards For Stationary Sources

| Noise Level | Daytime (7:00 a.m.–10:00 p.m.) | Nighttime (10:00 p.m.–7:00 a.m.) |
|---|---|---|
| Hourly Leq, dB | 50 | 45 |
| Maximum Level, dB | 70 | 65 |

Source: City of Manteca 2003, p. 9-6, Table 9-2

## *13.3.5 Contra Costa County*

### 13.3.5.1 Contra Costa County General Plan

The *Contra Costa County General Plan* (Contra Costa County 2005, p. 11-38) requires that new projects meet exterior noise level standards as established in OPR's noise compatibility guidelines, as shown in Figure D-3.

### 13.3.5.2 City of Oakley General Plan

The *City of Oakley 2020 General Plan* Noise Element (City of Oakley 2002) requires that noise created by stationary and transportation sources may not exceed the noise level standards shown in Tables D-19 and D-20.

Table D-19
City of Oakley Noise Level Performance Standards for Nontransportation Sources
*Exterior Noise Levels (dBA)*

| Measurement | Daytime (7:00 a.m.–10:00 p.m.) | Nighttime (10:00 p.m.–7:00 a.m.) |
|---|---|---|
| Hourly $L_{eq}$, dB | 55 | 45 |

Source: City of Oakley 2002, p. 9-4

Table D-20
City of Oakley Maximum Allowable Noise Exposure Transportation Noise Sources

| Land Use Type | Outdoor Activity Area ($L_{dn}$ or CNEL) (dBA)[a] |
|---|---|
| Residential | 65 |
| Transient lodging: motels, hotels | 65[b,c] |
| Hospitals, nursing homes, churches, meeting halls | 65 |
| Playgrounds, neighborhood parks | 70 |

Source: City of Oakley 2002, p. 9-5

[a] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.

[b] As determined for a typical worst-case hour during periods of use.

[c] In the case of hotel/motel facilities or other transient lodging, outdoor activity areas such as pool areas may not be included in the project design. In these cases, only the interior noise level criterion will apply.

### 13.3.5.3 City of Antioch

The City of Antioch has established noise standards in its General Plan Environmental Hazards Element (City of Antioch 2003, pp. 11-7–11-10). These standards include a noise level of 60 dBA CNEL for

residences, hospitals, and libraries; 65 dBA CNEL for school classrooms; and 70 dBA CNEL for school play and sports areas and commercial/industrial areas at the front setback.

#### 13.3.5.4 City of Pittsburg General Plan

The *City of Pittsburg General Plan* Noise Element (City of Pittsburg 2001) requires that new projects meet exterior noise level standards as established in OPR's noise compatibility guidelines, as shown in Figure D-3.

#### 13.3.5.5 City of Brentwood General Plan

The City of Brentwood limits exposure to noise from transportation sources on new development sites (City of Brentwood 1993). The limits are shown in Table D-21.

Table D-21
City of Brentwood Maximum Allowable Noise Exposure for Transportation Noise Sources

| Land Use | Outdoor Activity Areas[a] Weighted Daily Average[b] dBA | Interior Spaces | |
|---|---|---|---|
| | | Weighted Daily Average[b] dBA | Use Period Average[c] dBA |
| Residences | 60 | 45 | — |
| Transient lodging | 60 | 45 | — |
| Hospitals, nursing homes | 60 | 45 | — |
| Theaters, auditoriums, music halls | — | — | 35 |
| Churches, meeting halls | 60 | — | 40 |
| Office buildings | 60 | — | 45 |
| Schools | 60 | — | 45 |
| Libraries, museums | — | — | 45 |
| Playgrounds, neighborhoods parks | 70 | — | — |

Source: City of Brentwood 1993, p. IV. 3-9

[a] Where the location of the outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[b] Using the $L_{dn}$ or CNEL noise scale.

[c] $L_{eq}$, as determined for typical worst-case hours during periods in which the facility is used (e.g., school in session).

[d] Where it is not possible to reduce noise in outdoor activity areas to 60 dB $L_{dn}$/CNEL or less, using a practical application of the best available noise reduction measures, an exterior noise level of up to 65 dB $L_{dn}$/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

# 14.0 Population and Housing Regulatory Framework

Regulations at the Federal, State, and local levels regarding housing are generally concerned with the proper construction, provision, and siting of housing for a variety of incomes.

The California Housing and Community Development allocates the regional share of statewide housing needs to the regional Council of Governments (including Sacramento Area Council of Governments for Sacramento and Yolo counties, Association of Bay Area Governments for Solano and Contra Costa counties, and San Joaquin Council of Governments for San Joaquin County) based on the Department of Finance population projections and regional population forecasts used in preparing regional transportation plans. The Council of Governments developed a Regional Housing Need Plan to allocate the regional

housing allocation to cities and counties in the region. This allocation process is completed in accordance with Gov. Code section 65583(a)(1) to promote the following objectives:

- increase the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner;
- promote infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns; and
- promote an improved intraregional relationship between jobs and housing (California Department of Housing and Community Development 2011).

The proposed action and alternatives do not call for the construction of new homes, or the demolition of existing homes, and therefore the regulations pertaining to housing do not apply.

# 15.0 Public Services Regulatory Framework

## 15.1 Federal Regulatory Framework

### *15.1.1 Clean Water Act*

The CWA is described in Section 1.0, Water Resources Regulatory Framework. The CWA establishes the structure for regulating the discharge of pollutants into the waters of the United States and for regulating water quality standards for surface waters. Under the authority of the CWA, the USEPA implements pollution control programs and sets water quality standards for contaminants in surface waters.

### *15.1.2 Safe Drinking Water Act*

The SDWA, which was established to protect the quality of drinking water in the United States, authorizes the USEPA to perform the following:

- Establish minimum standards to protect tap water
- Require all owners and operators of public water systems to comply with health-related standards
- Establish minimum standards for state programs to protect underground sources of drinking water

Under the SDWA, State governments can be authorized to implement rules established by USEPA.

### *15.1.3 Federal Energy Regulatory Commission*

The Federal Energy Regulatory Commission (FERC) is an independent agency with authority to regulate interstate energy transmission. FERC is also responsible for reviewing proposals to build liquified natural gas terminals interstate natural gas pipelines and for licensing hydropower projects (FERC, 2011).

## 15.2 State Regulatory Framework

### *15.2.1 Porter-Cologne Water Quality Control Act*

The Porter Cologne Act is discussed Section 1.0, Water Resources Regulatory Framework.

### *15.2.2 California Public Utilities Commission*

The California Public Utilities Commission (CPUC) regulates privately owned water, energy, and telecommunications utilities. The CPUC also has responsibility for safety enforcement, including the investigation of all accidents on the property of any public utilities. A Division of Ratepayer Advocates within the CPUC has a statutory mandate to obtain the lowest possible utility rates for service consistent with safe and reliable service levels.

### 15.2.3 California Department of Public Health

The California Department of Public Health's Division of Drinking Water and Environmental Management is responsible for promoting and maintaining an environment that contributes positively to health, prevents illness, and assures protection of the public. Within Division of Drinking Water and Environmental Management, the Drinking Water Program regulates public water systems, oversees water recycling projects, certifies residential water treatment devises, certifies drinking water treatment operators, and provides funding opportunities for water system improvements.

### 15.2.4 California Energy Commission

The California Energy Commission is a State agency with regulatory authority over energy planning and policy. Duties and responsibilities of the California Energy Commission include the following:

- Forecasting future energy needs
- Licensing thermal power plants 50 megawatts or larger
- Promoting energy efficiency
- Supporting public interest energy research
- Supporting renewable energy
- Administering grant funding
- Planning for and responding to energy emergencies

## 15.3 Local Regulatory Framework

### 15.3.1 Cortese-Knox-Hertzberg Local Government Reorganization Act

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 establishes procedures for local government changes of organization, including city incorporations, annexations to a city or special district, and city and special district consolidations.

LAFCOs have the authority to act on local agency boundary changes and to adopt spheres of influence for local agencies. Among the purposes of LAFCOs are the discouragement of urban sprawl and the encouragement of the orderly formation and development of local agencies.

### 15.3.2 Law Enforcement

City and county general plans contain policies governing the provision of law enforcement services. Table D-22 lists general plan policies specific to law enforcement in the study area.

Table D-22
City and County General Plan Policies Governing Law Enforcement

| General Plan | Policies Governing Law Enforcement |
|---|---|
| Sacramento County | Public Facilities Element, Policies PF-57 – PF-59 |
| City of Sacramento | Public Health and Safety Element, Policies PHS 1.1.1 – PHS 1.1.12 |
| City of Elk Grove | Public Health and Safety Element, Policies SA-29 – SA-30 |
| Yolo County | Public Facilities and Services Element, Policies PF-4.1 – PF-4.8 |
| City of West Sacramento | Public Facilities and Services Element, Goals E and associated policies; Safety Element, Goal F and associated policies |
| Solano County | Public Facilities and Services Element, Policies PF.P-40 – PF.P-41 |
| City of Rio Vista | Safety and Noise Element, Policies 11.4.A – 11.4.D |
| City of Suisun City | Community Facilities and Services Element, Policy 11 |
| City of Fairfield | Public Facilities and Services Element, Policy PF 16.1 |

Table D-22
City and County General Plan Policies Governing Law Enforcement

| General Plan | Policies Governing Law Enforcement |
|---|---|
| City of Benicia | Community Health and Safety Element, Policies 4.4.1 – 4.6.3 |
| San Joaquin County | Public Health and Safety Element, Policies 6 – 8 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-7.1 – PFS-7.5 |
| City of Lathrop | Hazard Management Element, Policies 1 and 7 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-39 – PF-P-41 |
| City of Tracy | Public Facilities and Services Element, Objectives PF-2.1 – PF-2.3 and associated policies |
| Contra Costa County | Public Facilities and Services Element, Policies 7-57 – 7-61; Safety Element, Policy 10-86 |
| City of Antioch | Public Services and Facilities Element, Policies a – e |
| City of Pittsburg | Health and Safety Element, Policies 10-P-36 – 10-P-39 |
| City of Oakley | Growth Management Element, Policies 4.5.1 – 4.5.7 |
| City of Brentwood | Community Facilities Element, Policy 1.3; Safety Element, Policy 3.2 |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 241 – 243, 246 |

Sources: City and county general plans (see references)

### *15.3.3 Fire Protection and Emergency Medical Services*

City and county general plans contain policies governing the provision of fire protection and emergency medical services. Table D-23 lists general plan policies specific to fire protection and emergency medical services in the study area.

Table D-23
City and County General Plan Policies Governing Fire Protection and Emergency Medical Services

| General Plan | Policies Governing Fire Protection and Emergency Medical Services |
|---|---|
| Sacramento County | Public Facilities Element, Policies PF-61 – PF-69; Safety Element, Policies SA-22, SA-24 – SA-26, SA-30 |
| City of Sacramento | Public Health and Safety Element, Policies PHS 2.1.1 – PHS 2.1.11, PHS 2.2.1 – PHS 2.2.8 |
| City of Elk Grove | Safety Element, Policy SA-32 |
| Yolo County | Public Facilities and Services Element, Policies PF-5.1 – PF-5.7; Health and Safety Element, Policies HS-3.1 – HS-3.3 |
| City of West Sacramento | Public Facilities and Services Element, Goals F and H, and associated policies; Safety Element, Goal C, and associated policies |
| Solano County | Public Facilities and Services Element, Policies PF.P-38 – PF.P-39; Public Health and Safety Element, Policies HS.P-20 – HS.P-25 |
| City of Rio Vista | Safety and Noise Element, Policies 11.5.A – 11.5.D, 11.7.A – 11.7.F |
| City of Suisun City | Community Facilities and Services Element, Policy 11; Noise and Safety Element, Policies 13 – 18, 20 |
| City of Fairfield | Public Facilities and Services Element, Policies PF 10.1 – PF 10.4, PF 15.1 – PF 15.2; Health and Safety Element, Policies HS 4.1 – HS 4.9, HS 8.1 – HS 8.5 |

Table D-23
City and County General Plan Policies Governing Fire Protection and Emergency Medical Services

| General Plan | Policies Governing Fire Protection and Emergency Medical Services |
|---|---|
| City of Benicia | Community Health and Safety Element, Policies 4.15.1 – 4.15.2 |
| San Joaquin County | Public Health and Safety Element, Policies 1 – 5 (Fire), Policies 1 – 6 (Emergency Medical) |
| City of Stockton | Public Facilities and Services Element, Policies PFS-8.1 – PFS-8.11; Health and Safety Element, Policies HS-7.1 – HS-7.5 |
| City of Lathrop | Hazard Management Element, Policies 1 – 6 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-42 – PF-P-45 |
| City of Tracy | Public Facilities and Services Element, Objectives PF-1.1 – PF-1.2 and associated policies; Safety Element, Objectives SA-3.1 and SA-6.1 and associated policies |
| Contra Costa County | Public Facilities and Services Element, Policies 7-62 – 7-86 |
| City of Antioch | Public Services and Facilities Element, Policies a – d; Environmental Hazards Element, Policies a – b |
| City of Pittsburg | Health and Safety Element, Policies 10-P-36 – 10-P-38; Public Facilities and Services Element, Policies 11-P-24 – 11-P-29 |
| City of Oakley | Growth Management Element, Policies 4.4.1 – 4.4.6; Health and Safety Element, Policies 8.4.1 – 8.4.4 |
| City of Brentwood | Community Facilities Element, Policy 1.3; Safety Element, Policies 1.5, 3.1, and 3.3 |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 241 – 246; Environmental Health and Safety Element, Policies 318 – 324 |

Sources: City and county general plans (see references)

### *15.3.4 Public Schools*

City and county general plans contain policies governing the construction and operation of public schools. Table D-24 lists general plan policies specific to public schools in the study area.

Table D-24
City and County General Plan Policies Governing Public Schools

| General Plan | Policies Governing Public Schools | Page(s) |
|---|---|---|
| Sacramento County | Public Facilities Element, Policies PF-26 – PF-46 | |
| City of Sacramento | Education, Recreation, and Culture Element, Policies ERC 1.1.1 – ERC 1.1.11 | |
| City of Elk Grove | Public Facilities and Finance Element, Policies PF-16 – PF-18 | |
| Yolo County | Public Facilities and Services Element, Policies PF-6.1 – PF-6.6 | |
| City of West Sacramento | Public Facilities and Services Element, Goal G and associated policies | |
| Solano County | Public Facilities and Services Element, Policies PF.P-42 – PF.P-45 | |
| City of Rio Vista | Public Facilities and Services Element, Policies 12.3.A – 12.3.H | |
| City of Suisun City | Community Facilities and Services Element, Policies 7 - 10 | |
| City of Fairfield | Public Facilities and Services Element, Policies PF 20.1 – PF 23.3 | |

Table D-24
City and County General Plan Policies Governing Public Schools

| General Plan | Policies Governing Public Schools | Page(s) |
|---|---|---|
| City of Benicia | Community Development and Sustainability Element, Policies 2.34.1 – 2.35.1 | |
| San Joaquin County | Public Facilities Element, Policies 1 – 5 | |
| City of Stockton | Public Facilities and Services Element, Policies PFS-9.1 – PFS-9.6 | |
| City of Lathrop | Land Use Element, Policies 6.1 – 6.3 | |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-33 – PF-P-38 | |
| City of Tracy | Public Facilities and Services Element, Objectives PF-3.1 – PF-3.3 and associated policies | |
| Contra Costa County | Public Facilities and Services Element, Policies 7-136 – 7-146 | |
| City of Antioch | Public Services and Facilities Element, Policies a – h | |
| City of Pittsburg | Open Space, Youth, and Recreation Element, Policies 8-P-39 – 8-P-45 | |
| City of Oakley | Growth Management Element, Policies 4.6.1 – 4.6.13 | |
| City of Brentwood | Community Facilities Element, Policy 1.2 | |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 230 - 235 | |

Sources: City and county general plans (see references)

### *15.3.5 Libraries*

City and county general plans contain policies governing the construction and operation of libraries. Table D-25 lists general plan policies specific to libraries in the study area.

Table D-25
City and County General Plan Policies Governing Libraries

| General Plan | Policies Governing Libraries | Page(s) |
|---|---|---|
| Sacramento County | Public Facilities Element, Policies PF-47 – PF-56 | |
| City of Sacramento | Education, Recreation, and Culture Element, Policies ERC 3.1.1 – ERC 3.1.9 | |
| City of Elk Grove | Public Facilities and Finance Element, Policy PF-15 | |
| Yolo County | Public Facilities and Services Element, Policies PF-7.1 – PF-7.3 | |
| City of West Sacramento | Public Facilities and Services Element, Goal G, Policy 9 and Goal I, Policy 4 | |
| Solano County | Public Facilities and Services Element, Policies PF.P-46 – PF.P-48 | |
| City of Rio Vista | Public Facilities and Services Element, Policies 12.2.A – 12.2.E | |
| City of Fairfield | Public Facilities and Services Element, Policy PF 11.4 | |
| San Joaquin County | Public Facilities Element, Policies 1 – 4 | |
| City of Stockton | Public Facilities and Services Element, Policies PFS-11.1 – PFS-11.5 | |
| City of Tracy | Public Facilities and Services Element, Objectives PF-4.1 – PF-4.2 and associated policies | |
| Contra Costa County | Public Facilities and Services Element, Policy 7-159 | |

Table D-25
City and County General Plan Policies Governing Libraries

| General Plan | Policies Governing Libraries | Page(s) |
|---|---|---|
| City of Antioch | Public Facilities and Services Element, Policy d | |
| City of Pittsburg | Open Space, Youth, and Recreation Element, Policy 8-P-45 | |
| City of Oakley | Growth Management Element, Policy 4.3.4 | |
| City of Brentwood | Community Facilities Element, Policies 1.5 – 1.6 | |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policy 284 | |

Sources: City and county general plans (see references)

### *15.3.6 Parks and Recreation*

Parks and recreation are addressed in Section 16.0, Recreation Regulatory Framework.

# 16.0 Recreation Regulatory Framework

This section provides an overview of regulations that may affect recreation, including State and local parks and open space, with a focus on regulations within the Delta and Suisun Marsh.

## 16.1 Federal Regulatory Framework

### *16.1.1 Clean Water Act*

The CWA is described in Section 1.0, Water Resources Regulatory Framework.

### *16.1.1 Federal Water Project Recreation Act*

The Federal Water Project Recreation Act (16 USC sections 460(L)(12)- 460(L)(21)) declares the intent of Congress that recreation and fish and wildlife enhancement be given full consideration as purposes of federal water development projects if non-Federal public bodies agree to: (1) bear not less than one-half the separable costs allocated for recreational purposes or twenty-five percent of the cost for fish and wildlife enhancement; (2) administer project land and water areas devoted to these purposes; and (3) bear all costs of operation, maintenance and replacement. Where federal lands or authorized federal programs for fish and wildlife conservation are involved, cost-sharing is not required.

This Act also authorizes the use of federal water project funds for land acquisition in order to establish refuges for migratory waterfowl when recommended by the Secretary of the Interior, and authorizes the Secretary to provide facilities for outdoor recreation and fish and wildlife at all reservoirs under his control, except those within national wildlife refuges.

### *16.1.2 Federal Land and Water Conservation Fund Act*

The ***Land and Water Conservation Fund*** (LWCF), created by Congress in 1964, provides money to Federal, State and local governments to purchase land, water and wetlands for the benefit of all Americans. Lands and waters purchased through the Land and Water Conservation Fund are used to:

- Provide recreational opportunities
- Provide clean water
- Preserve wildlife habitat
- Enhance scenic vistas

- Protect archaeological and historical sites
- Maintain the pristine nature of wilderness areas

## 16.2 State Regulatory Framework

Several State agencies have responsibilities in regards to regulations and policies regarding recreation in the Delta and are described below. Additional summary information also is found in the Aquatic Recreation Component of the *Delta Recreation Strategy Plan* (DPC 2006, pp. 19-30).

### *16.2.1 Delta Protection Act for 1992*

The Delta Protection Act is described in Section 1.0, Water Resources Regulatory Framework.

### *16.2.2 State Lands Commission*

The California SLC was established in 1938 and provides stewardship of the lands and waterways of California (SLC 2011). The State owns nearly 4 million acres of "Sovereign Lands," including the beds of navigable rivers, lakes, and streams, tidal waterways, and tidelands up to the ordinary high water mark and submerged lands along the coastline extending from the shoreline out to 3 miles offshore. SLC may lease Sovereign Lands for any public trust purpose, including recreation, navigation, fisheries, commerce, and open space. For instance, a public or private entity must lease sites for marinas and recreational piers that fall within Sovereign Lands. Additionally, SLC issues permits for dredging lands that fall under its jurisdiction.

### *16.2.3 McAteer-Petris Act*

The McAteer-Petris Act, which established BCDC, is detailed in Section 2.0, Biological Resources Regulatory Framework. BCDC has jurisdiction over filling, dredging, and development projects within 100 feet of the shoreline, and projects in the portion of the Suisun Marsh below the 10-foot contour level. Jurisdiction includes San Francisco Bay and areas of Suisun Bay, waterways that flow into Suisun Bay, and salt ponds or managed wetlands around the bay. Any of these activities require a BCDC permit. BCDC's land use authority relates primarily to ensuring and protecting public access to the bay.

### *16.2.4 California Department of Fish and Game*

Regulations by the DFG are described in Section 2.0, Biological Resources Regulatory Framework.

### *16.2.5 California Department of Boating and Waterways*

The Department of Boating and Waterways' (DBW's) mission is to provide safe and convenient public access to California's waterways and leadership in promoting the public's right to safe, enjoyable, and environmentally sound recreational boating (DBW 2011a). To that end, DBW has several authorities with regard to activities in the Delta. DBW endorses boating safety and education, assists local boating law enforcement agencies, ensures uniformity in boating regulations, and licenses boat operators and brokers. DBW is also responsible for reviewing, updating, and adopting State boating regulations to reflect changes in federal and State boating laws, and planning and designing boating facilities for California Department of Parks and Recreation (State Parks) and on other State lands (DBW 2011b, 2011c). DBW has been the lead agency for controlling water hyacinth (since 1982) in the Delta and *Egeria densa* since 1997 (DBW 2011d).

### *16.2.6 California Department of Parks and Recreation*

The mission of the State Parks is to provide for the health, inspiration, and education of the people of California by helping to preserve the State's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high-quality outdoor recreation. State Parks has a major role in the protection, restoration, and interpretation of the State's wetlands. A primary goal

for State Parks is the preservation of the State's biological diversity and the protection of its valued natural resources including wetlands. In addition to being included in State Parks' primary mission, wetlands preservation is also a mandated responsibility under the Keene-Nejedly California Wetlands Preservation Act of 1976 (Pub. Resource Code Division 5, Chapter 7). The Act directs State Parks, along with the DFG, to recognize opportunities for protecting wetlands which lie within or adjacent to State Parks' System units, and to consider acquisition of wetlands in proximity of state parks. In addition to lands directly owned by State Parks, State Parks also has certain jurisdiction over granted or ungranted tidelands or submerged lands abutting State Parks' System lands (Pub. Resource Code section 5003.5).

Within the Delta, State Parks properties include Brannan Island SRA, Delta Meadows River Park, Franks Tract SRA, Locke Boarding House, State Parks' Stone Lakes property within Stone Lakes National Wildlife Refuge, and Old Sacramento State Historic Park's Walnut Grove Branch Rail Line. In addition to managing these natural and cultural areas, State Parks comments on environmental impact reports and environmental impact statements for any development or plan that may affect its properties. Under SB X7, State Parks was directed to prepare a proposal to "expand within the Delta the network of State recreation areas, combining existing and newly designated areas" (Wat. Code section 85301 (c) (1)). State Parks made a brief presentation on its "Recreation Proposal for the Sacramento-San Joaquin Delta and Suisun Marsh" at the August 26, 2011 meeting of the Delta Protection Council.

### *16.2.7 State Water Resources Control Board and Regional Water Quality Control Boards*

The SWRCB and nine RWQCBs were established by the State Legislature in 1967. SWRCB protects water quality by setting statewide policy and acts as an appellate body to the RWQCBs (as described in Section 1.0, Water Resources Regulatory Framework). The San Francisco RWQCB has adopted plans to protect the State's water quality, including the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan. This plan states that water contact and non-contact water recreation uses, as well as commercial and recreational fishing, are "beneficial uses" protected by the plan.

## 16.3 Local Regulatory Framework

Planning documents for counties and cities in the Delta and Suisun Marsh were reviewed to identify policies addressing recreation in the Delta. The local regulatory framework section discusses these goals and policies, as well as any additional Delta-specific policy documents associated with or referred to by the general plan documents.

Council of government plans, which deal primarily with transportation and land use planning and only impact recreation indirectly, are not included in this framework.

General plans for the following six counties were reviewed to identify recreation-related goals, policies, or other regulations:

1. Sacramento
2. Yolo
3. Solano
4. San Joaquin
5. Contra Costa
6. Alameda

The main issues identified in the county general plans deal with access to recreation opportunities near and within the Delta, preserving and encouraging water-based recreation, and acknowledging the use of Delta open space as a source of passive and natural-resource-based recreation.

## *16.3.1 Sacramento County*

### 16.3.1.1 Sacramento County General Plan

The *Sacramento County General Plan* Delta Protection Element contains a Recreation and Access section, and its goal is "to promote continued recreational use of the land and waters of the Delta; to ensure that needed facilities that allow such uses are constructed, maintained, and supervised; to protect landowners from unauthorized recreational uses on private lands; and to maximize dwindling public funds for recreation by promoting public-private partnerships and multiple use of Delta lands" (Sacramento County 2009a, p. 2). The section also contains the following nine policies involving recreation (Sacramento County 2009a, p. 12-14):

- DP-33: Where public funds are limited, local governments shall promote maintenance and supervision of existing public recreation areas over construction of new public facilities.
- DP-34: To minimize impacts to agriculture and to wildlife habitat, local governments shall encourage expansion of existing private water-oriented commercial recreational facilities over construction of new facilities. Local governments shall ensure any new recreational facilities will be adequately supervised and maintained.
- DP-35: Local governments shall develop siting criteria for recreation projects which will ensure minimal adverse impacts on: agricultural land uses, levees, and public drinking water supply intakes, and identified sensitive wetland and habitat areas.
- DP-36: Local governments shall improve public safety on Delta waterways through enforcement of local, State, and federal laws.
- DP-37: Local governments shall encourage provision of publicly funded amenities in or adjacent to private facilities, particularly if the private facility will agree to supervise and manage the facility (fishing pier, overlook, picnic area) thus lowering the long-term cost to the public.
- DP-38: Local governments shall support multiple uses of Delta agricultural lands, such as seasonal use for hunting, or improved parking and access sites.
- DP-39: Local governments shall support improved access for bank fishing along State highways and county roads where safe and adequate parking can be provided and with acquisition of proper rights-of-access from the landowner. Adequate policing, garbage cleanup, sanitation facilities, and fire suppression for such access shall be provided.
- DP-40: New, renovated, or expanded marinas shall include adequate restrooms, pump-out facilities, trash containers, oily waste disposal facilities, and other facilities necessary to meet needs of marina tenants. Use fees may be charged for the use of these facilities but such fees shall not exceed the cost of maintenance.
- DP-41: Local governments shall encourage new recreation facilities that take advantage of the Delta's unique characteristics.

The Open Space Element of the Sacramento General Plan contains the section "Relationship to Other Elements," which states:

> *The Delta Primary Zone, defined by the Delta Protection Commission (DPC), is a unique resource with a rich cultural heritage, a strong agricultural base, and many opportunities for recreation and habitat conservation. In order to help preserve these and other important values of the Delta Primary Zone, the Board of Supervisors adopted a resolution incorporating the Delta Protection Commission's "Land Use and Resource Management Plan for the Primary Zone of the Delta" (DPC adopted 2/23/95) into the*

*Sacramento County General Plan (Resolution # 96- 1083). The Board's action excluded Policy P-3 of the Delta Plan's Utilities and Infrastructure Section regarding sewage treatment facilities and disposal of sewage effluent and sludge. The Board-adopted Delta Plan policies relate to many aspects of open space and resource conservation, and shall be considered when making decisions on projects within the Primary Zone of the Delta* (Sacramento County 2009b, p. 2).

#### 16.3.1.2 City of Sacramento General Plan

The Education, Recreation, and Culture Element of the *City of Sacramento's General Plan* provides goals and policies (ERC 2.4) relating to the recreation in and along rivers, creeks, and natural resource areas feeding into the Delta (City of Sacramento 2009, p. 2-258).

The General Plan includes a special Study Area for the unincorporated town of Freeport and the adjacent incorporated areas. The Freeport Study Area and policies associated with the Special Planning District are also included within the South Area Community Plan (City of Sacramento 2009, p. 3-SA-6).

#### 16.3.1.3 City of Elk Grove General Plan

The *City of Elk Grove's General Plan* acknowledges that "no portion of the Primary Zone of the Sacramento River Delta is currently within the 2002 city limits, although a portion of the Primary Zone is within the larger Planning Area for (the) General Plan" (City of Elk Grove 2003, p. 47). The Parks, Trails, and Open Space Element recognizes the Delta as an important open space resource and seeks to ensure that trail and open space corridors provide linkages to the Delta (City of Elk Grove 2003, pp. 159-165). Also, the Conservation and Air Quality Element contains a policy (Policy CAQ-6) to conform with the "Land Use and Resource Management Plan for the Primary Zone of the Delta" developed by the DPC (City of Elk Grove 2003, p. 47).

### *16.3.2 Yolo County*

#### 16.3.2.1 Yolo County General Plan

The Conservation and Open Space Element of the *County of Yolo 2030 Countywide General Plan* identifies policies for recreation in the Delta. Two of twenty-nine policies listed in Section C relate to recreation (Yolo County 2009, p.CO-13 to CO-16).

- Policy CO-1.2: Develop a connected system of recreational trails to link communities and parks throughout the county.
- Policy CO-1.23: Increase public access and recreational uses along waterways wherever feasible, particularly Cache Creek, Lower Putah Creek, the Yolo Bypass, and the Sacramento River.

The element also contains a subsection pertaining specifically to the Delta. Of the twenty-two Delta-specific policies, the following two address recreation (County of Yolo 2009, p. CO-97 – CO -100):

- Policy CO-9.13: Encourage funding for the construction and operation of the Pacific Flyway Center at a site located next to the Yolo Bypass.
- Policy CO-9.14: Establish Clarksburg as a gateway entry for visitors to the Delta region seeking agricultural tourism, ecotourism, and recreational opportunities.

#### 16.3.2.2 City of West Sacramento General Plan

The *City of West Sacramento General Plan* was originally adopted May 3, 1990, and most recently revised and adopted December 8, 2004. The city is in the process of completing an update. Section V, the Recreational and Cultural Resources Element, states the following goal and associated policies:

- Goal D: To provide and encourage, to the fullest extent possible, public access to the Sacramento River and Deep Water Ship Channel for recreation purposes.
  - Policy 1: The City shall ensure continuous public access to the Sacramento River for its full length within West Sacramento.
  - Policy 2: The City shall seek to ensure continuous public access to the Deep Water Ship Channel, within the limits imposed by safety considerations.
  - Policy 3: Linear access to the Sacramento River and Deep Water Ship Channel shall be linked to the city's overall system of parks, recreational pathways, and open space. To this end, the City shall require the dedication of public access easements through new developments along the Sacramento River and Deep Water Ship Channel.
  - Policy 4: The City shall encourage the development of public and private marinas in appropriate locations on the Sacramento River and along the Deep Water Ship Channel. Siting and development of marinas shall avoid, as much as possible, areas of significant existing riparian vegetation.
  - Policy 5: The City shall support and encourage the development of public and private water-oriented park and recreational facilities along the Sacramento River and the Deep Water Ship Channel.

Access and water-based recreation opportunities along the Sacramento River and Deep Water Ship Channel would be considered areas of urban edge recreation with respect to the Delta (City of West Sacramento 1990, p. II-62).

### *16.3.3 Solano County*

#### 16.3.3.1 Solano County General Plan

The *Solano County General Plan* Park and Recreation Element identifies the following goal and policy related to recreation and the natural resources of the Delta (Solano County 2008, p. 8-10):

- Chapter 2, Goals and Objectives: In the Facilities Development section, the plan acknowledges that significant natural resources, such as water bodies and marshes, exist within the county and may provide recreational activities unique from those of developed parks. Also, recreational opportunities unique to these natural resources should be considered when siting and developing regional facilities.
- Objective 7, Policy B: The county shall encourage the development of linkages (such as riding, hiking, and biking trails) between population centers and regional recreation facilities. Any trail system that links parklands cannot conflict with agriculture and other land uses.

In addition, the County General Plan contains specific policies governing the Suisun Marsh that are included in the General Plan under Appendix C and have been incorporated into the Solano County component of the Suisun Marsh Local Protection Program certified by the San Francisco BCDC on November 3, 1982, and amended on February 2, 1999 (Solano County 2008, p. C-14 to C-18).

#### 16.3.3.2 City of Rio Vista General Plan

The City of Rio Vista General Plan provides policy direction regarding recreation in and around the Delta. The Open Space and Recreation Element acknowledges the use of open spaces and waterways as passive recreation areas and recommends the improvement of access and views to these areas. The following two goals highlight these policy recommendations.

- Goal 9.1: To provide public access and view opportunities on the Sacramento River to the maximum extent feasible (City of Rio Vista 2002a, p. 9-29).
- Goal 9.1.C: The City shall enhance the Sacramento River and its waterfront as a scenic resource consistent with water-oriented recreation (City of Rio Vista 2002a, p. 9-29).

The Resource Conservation and Management Element provides goals and policies for preserving and protecting environmental resources and open spaces. The relationship to recreation is found in the following two goals:

- Goal 10.4: To preserve and protect biological resources for their wildlife habitat, aesthetic, and recreational values (City of Rio Vista 2002b, p. 10-31).
- Goal 10.11: To protect the visual and scenic resources of Rio Vista – recognizing their importance in the quality of life for City residents and in promoting recreation and tourism (City of Rio Vista 2002b, p. 10-41).

The city's Parks Master Plan also "…guides the development, operation, and maintenance of the City's park and open space system." The city's general plan requires regular updates of the Parks Master Plan. The Parks Master Plan develops general plan policies from the Open Space and Recreation Element in greater detail (City of Rio Vista 2007).

#### 16.3.3.3 City of Suisun City General Plan

Suisun City has a significant edge relationship with the Suisun Marsh. The city's Open Space and Conservation Element acknowledges that, "Parts of the Marsh lie within the City limits, and other parts border the City" (City of Suisun City 1992, p. 82). As a result, the general plan provides a policy directly related to urban edge recreation in the Suisun Marsh. The policy is found in Chapter 7 under Section B in the Open Space and Conservation Element.

- Policy 8: Recreation along the border of the Marsh - Park lands within Suisun City bordering the Marsh shall include carefully controlled transitional areas where human-created park habitat interacts with natural Marsh habitat to enhance the recreational value of the Marsh (City of Suisun City 1992, p. 86).

#### 16.3.3.4 City of Fairfield General Plan

The *City of Fairfield General Plan* Open Space, Conservation, and Recreation Element states, "Although Suisun Marsh is not located with Fairfield's City limits, its value as an open space and water resource is of considerable significance to the City and the region" (City of Fairfield 2002, p. OS-35). The plan provides the following objective and policy relating to the Suisun Marsh and recreational edge use:

- Objective OS 2: Create a greenbelt/open space buffer around the perimeter of the city that provides a clear sense of identity for the City of Fairfield as separate from other urban areas and incorporates the hills, the Jepson Prairie, and the Suisun Marsh (City of Fairfield 2002, p.OS-3).
- Policy OS 9.7: Promote only low intensity recreational activities which are compatible with the marsh environment adjacent to Suisun Marsh (City of Fairfield 2002, p.OS-21).

In addition to the objective in the Open Space, Conservation, and Recreation Element, policies for open space, conservation, and recreation in the Benicia/Fairfield/Vallejo Buffer Area (Open Space Planning Area 1) are also contained in the Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation, an optional element to the Fairfield General Plan.

#### 16.3.3.5 City of Benicia General Plan

The *City of Benicia General Plan* Community Development and Sustainability chapter addresses Community Services, Parks, and Recreation. The plan provides the following policies relating to recreational use:

- Policy 2.32.1: Establish new parks/recreation areas (City of Benicia 1999, p. 86).
- Policy 2.32.2: Continue to develop and enhance recreational benefits of the shoreline and seek public access along the waterfront (City of Benicia 1999, p. 86).

### *16.3.4 San Joaquin County*

#### 16.3.4.1 San Joaquin County General Plan

San Joaquin County is in the third year of an anticipated 36-month update to its General Plan, with a projected conclusion in June 2011.

The primary references to recreation in the Delta are located in the following area of the General Plan:

- Volume I, Chapter IV-Community Development, Section E-Public Facilities, Sub-section 1-Recreation (San Joaquin County 1992, Vol. I, p. IV-113-121)

Volume III, Chapter IV, Section H-Summary of Open Space Plan provides an overview of general goals, discusses Outdoor Recreation, specifically in Sub-section 5, and identifies other elements of the General Plan where open space for outdoor recreation is discussed (Public Facilities and Heritage Resources). The summary does not, however, identify any specific objectives or polices (San Joaquin County 1992, Vol. III, pp. IV-H1-H10).

#### 16.3.4.2 City of Stockton General Plan

The City *of Stockton General Plan 2035 Goals and Policies Report* is the city's adopted general plan document. Policies throughout the document promote the use of waterways as recreational and visual amenities and encourage the maintenance and expansion of public access for recreational use. The Recreation and Waterways Element focuses on these goals and policies. Goal RW-5 in the element is "To preserve and enhance waterways for recreation and open space." The goal has six associated policies:

- RW-5.1: Incorporate Waterways Into Design of Parks and Trails - The City shall endeavor to preserve and restore the natural values of the San Joaquin and Calaveras Rivers, the Delta, and other local waterways, and incorporate them in the City's parks, trails, and open space system.
- RW-5.2: Improve Riparian Corridors - The City shall endeavor to protect, preserve, and improve riparian corridors and incorporate them in the City's parks, trails, and open space system.
- RW-5.3: Funding Waterway Access - The City shall investigate funding mechanisms to acquire and improve public access to and along waterways.
- RW-5.4: Design of Waterway and Trail Corridors - The City shall design waterway and trail corridors to meet the recreational needs of the community, while maximizing public safety and access concerns. This includes locating trail corridors to ensure visibility along public roadways, where appropriate.

- RW-5.5: Maintenance of Waterway and Trail Corridors - The City shall ensure that existing park maintenance activities incorporate applicable trail maintenance activities necessary to address public safety issues along City-owned trail areas. Trail maintenance activities shall be conducted in a manner consistent with all applicable environmental regulations and shall ensure emergency vehicle access along portions of the trail corridor where appropriate. Trail maintenance measures shall include, but not be limited to, vegetation or brush clearing and signage prohibiting inappropriate uses.

- RW-5.6: Security along Waterway and Trail Corridors - The City shall implement a variety of public safety measures to address crime-related issues along City-owned trail areas. Public safety measures shall include, but not be limited to, active policing using (City of Stockton 2007, p. 10-7).

#### 16.3.4.3 City of Lathrop General Plan

The Resource Management Element of the city's Comprehensive General Plan contains policies regarding open space for outdoor recreation (City of Lathrop 1991). Although no specific goals or policies regarding Delta-based recreation are stated, the city has a Specific Plan for the West Lathrop area, which borders the legal Delta and the San Joaquin River. The West Lathrop Specific Plan lists the following recreational-related objectives (City of Lathrop 2002, pp. II-8 – II-13).

- Objective 3H: Enrich Lathrop's way of life along the San Joaquin River by including generous open space, access, and recreation at the river's edge in the Mossdale Village area.

- Objective 3J: Create a West Lathrop park and open space system that is linked to citywide systems and is capable of linkage to regional open space and trail systems.

- Objective 4D: Develop adequate and diverse recreational facilities for visitors and residents, for active and passive activities, especially along the San Joaquin River.

- Objective 4F: Take advantage of the West Lathrop levees to offer long-range vistas and long courses for recreational travel.

#### 16.3.4.4 City of Manteca General Plan

Although Manteca is near the legal Delta boundary, its general plan does not provide direct goals or policies for recreation in or at the edge of the Delta. Recreation as a component of open space is mentioned in the Resource Conservation Element (City of Manteca 2003, p. 8-8) but only in a general sense. Parks and recreation are addressed in the Public Facilities and Services Element (City of Manteca 2003, p. 6-18).

#### 16.3.4.5 City of Tracy General Plan

Although Tracy is the legal Delta, its general plan does not provide direct goals or policies for recreation in or at the edge of the Delta. Outdoor recreation as a component of open space is discussed in Chapter 6, Open Space and Conservation Element (City of Tracy 2011, p. 6-1). The general plan provides only one recreation-related planning objective and associated policies potentially relevant to areas outside the city's planning area limits: Objective OSC-4.3: Establish a regional linear parkway system that meets recreational, open space and transportation needs (City of Tracy 2011, pp. 6-28–6-29).

- Policy P1: The City shall pursue the conversion of underutilized rail corridors into multi-use trails.

- Policy P2: All development projects shall provide linkages to the regional bike and trail system and circulation within the development project site, wherever feasible.

- Policy P3: The City shall pursue the completion of all trail systems designated in the Bikeways Master Plan.
- Policy P4: The City shall partner with San Joaquin County to coordinate regional trail linkages.

## *16.3.5 Contra Costa County*

### 16.3.5.1 Contra Costa County General Plan

The Open Space Element of the *Contra Costa County General Plan 2005–2020* discusses recreation in the Delta. Private recreation development, along with marina additions and other facilities, is encouraged in the Delta. The following goals, policies, and implementation measure relate to recreation in the Delta (Contra Costa County 2005, p. 9-22 to 9-23):

- Goal 9-37: To develop a system of interconnected hiking, riding and bicycling trails and paths suitable for both active recreational use and for the purpose of transportation/circulation.
  - Policy 9-43: Regional-scale public access to scenic areas on the waterfront shall be protected and developed, and water-related recreation, such as fishing, boating, and picnicking, shall be provided.
  - Policy 9-44: As a unique resource of statewide importance, the Delta shall be developed for recreational use in accordance with State environmental goals and policies. The recreational value of the Delta shall be protected and enhanced.
  - Policy 9-46: Public trail facilities shall be integrated into the design of flood control facilities and other public works whenever possible.
- Implementation Measure 9-s. Permit additional marinas to serve the Delta and the Bay in select areas if they meet the following criteria (Contra Costa County 2005, p. 9-23 to 9-24).
  a. Where projects can be clustered and located adjacent to similar uses;
  b. Along waterways having an adequate channel width as defined by the State Harbors and Navigation Code;
  c. In areas having adequate public vehicular access;
  d. Where off-site improvements, such as required access roads, can be assigned to development;
  e. Where adequate on-site sewage disposal can be provided;
  f. Where located in a n area served by a public fire protection district; and
  g. When such uses will not conflict with adjacent agricultural uses.

### 16.3.5.2 City of Pittsburg General Plan

The *City of Pittsburg General Plan*, Open Space, Youth and Recreation Element, identifies the Delta shoreline as one of the city's "most identifiable resources" and calls for an increase in physical and visual public access to the shoreline (City of Pittsburg 2001, p. 8-15). The element provides three goals (8-G-5 through 8-G-7) and four policies (8-P-23 through 8-P-26) designed to improve and maximize public access and views of the Delta, its shoreline, and Suisun Bay (City of Pittsburg 2001, pp. 8-16 to 8-17):

- 8-G-5: Maximize public access to and recreational facilities along the City's waterfront areas.
- 8-G-6: Improve linkages between the waterfront, Downtown core, and other recreational open spaces within the City.

- 8-G-7: Promote improved views of the shoreline from public parks and rights-of-way.
- 8-P-23: Develop standards for all new waterfront development that ensure adequate setbacks from the mean high tide line. Encourage, where possible, provision of public access to the shoreline. A waterfront development setback will ensure that new development along the water provides adequate space for a shoreline trail allowing residents access to the Suisun Bay.
- 8-P-24: During review of development plans, pursue preservation of lands where streets terminate at the waterfront. Such lands should be improved as public open space, ensuring that undisturbed views of Suisun Bay and New York Slough are preserved. The development of lands at street terminuses for waterfront parks will provide City residents with views of an identifiable public access to the Delta shoreline.
- 8-P-25: Emphasize the importance of public views of the shoreline (from public spaces and rights-of-way) when reviewing new development projects along the water. Work with developers to ensure that new development along the waterfront, particularly adjacent to Downtown, provides both site tenants and the larger public with views of the Delta shoreline. Inform developers of this City policy early in the development review process to ensure quality design of new projects.
- 8-P-26: Explore all potential improvements to fully integrate the City's shoreline into the urban fabric, including:
  - Waterfront Parks. Pursue and develop small pockets of open space that provide physical and visual access to the waterfront.
  - Waterfront Trail/Bikeway. A linear park along the shoreline, featuring a path for both walking and biking, would encourage more vibrant activity along the waterfront.
  - Landscaping. Plant low-growing and flowering greenery near waterfront access points to extend streetscaping to the shoreline.
  - Linear Trail Connections. The City's current linear trail network within Downtown and adjacent residential neighborhoods could be extended to provide convenient access to waterfront parks and activities. Increased shoreline access, improved landscaping and amenities in accessible areas, as well as linkages to nearby neighborhoods and Downtown, would draw more residents and visitors to Pittsburg's Downtown area. Any linear park connection made to provide access to the shoreline will improve residents' sense of identity with the waterfront.

#### 16.3.5.3 City of Antioch General Plan

The *City of Antioch General Plan* contains several policies related to the interface of recreation with the urban zones located along the San Joaquin River. The Public Services and Facilities Element includes the following policy:

- Policy D: Secure and develop a shoreline park along the San Joaquin River consisting of recreational trails, viewing areas, and natural habitat protection so as to ensure availability of the waterfront in the City for public enjoyment (City of Antioch 2003, p. 8-9).

The Resource Management Element contains the following policies:

- Policy A: Establish a comprehensive system of open space that is available to the public, including facilities for organized recreation; active informal play; recreational travel along formal, natural, and riverfront trails; passive recreation; and enjoyment of the natural environment (City of Antioch 2003, p. 10-4).
- Policy C: Maintain the shoreline of the San Joaquin River as an integrated system of natural (wetlands) and recreational (trails and viewpoints) open space as set forth in the Land Use Element and Public Services and Facilities Element (City of Antioch 2003, p. 10-4).

#### 16.3.5.4 City of Oakley General Plan

Regarding the Delta and recreation, the Oakley General Plan states, "The predominant physical feature in Oakley is the San Joaquin Delta. This waterway serves as an open space area, sensitive plant and wildlife habitat, and recreational opportunity for the City. At the General Plan Vision Workshop on December 4, 2000, the participants expressed the desire to ensure that open space and natural landscapes remain a major component of lands near the Delta. Additionally, participants requested a focus on recreational development of the Delta to provide a center for tourism and a base for recreational activity" (City of Oakley 2002, p. 6-27).

As a result, the Oakley General Plan Open Space and Conservation Element provides a specific open space designation for Delta Recreation. The designation encompasses the lowlands of the San Joaquin Delta at the city's northwestern edge, most of which is located within the 100-year floodplain (City of Oakley 2002, p. 6-9). The General Plan also provides this designation for an area located north of the Contra Costa Canal within the Dutch Slough area.

The plan also provides the following goals and policies concerning the scenic resources of the Delta (City of Oakley 2002, p. 6-7):

- Goal 6.7: Seek to preserve the scenic qualities of the Delta waterway, Marsh Creek, and views of Mount Diablo.
- Policy 6.7.1: Encourage preservation and enhancement of views of the Delta and Mount Diablo to the extent possible.
- Policy 6.7.2: New development and redevelopment along the Delta, adjacent to Marsh Creek and throughout the City should take advantage of view opportunities and visual impacts to the waterway and Mount Diablo, respectively.

The General Plan's Parks and Recreation Element provides the following policy regarding edge recreation near the Delta (City of Oakley 2002, p.7-9):

- Policy 7.4.9: Public park uses adjacent to the Delta should meet the following criteria:
  - Related primarily to water activities
  - Compatible with surrounding residential and commercial activities
  - Available for year round use and enjoyment
  - Provision for barrier-free public access and use for active and passive recreational and social enjoyment
  - Balance between retention of natural resources and the creation of hard urban features

The element also states, "It should be noted also that the Delta region provides a variety of recreational opportunities including fishing, hunting, boating, camping, picnics, and viewing nature. In a survey to

study recreation uses of the Delta conducted by the Delta Protection Commission in 1996, Contra Costa had the highest percentage of people partaking in recreation activities along the Delta region…The summary list of top ten counties of origin for boaters and anglers reveals the importance of proximity of residence to the Delta as a factor for people to visit and have recreation activities at the Delta" (City of Oakley 2002, p.7-19).

The city also has a *Parks, Trails and Recreation Master Plan 2020* that serves as an implementation tool for the General Plan (City of Oakley 2006).

#### 16.3.5.5 City of Brentwood General Plan

The City of Brentwood General Plan 1993-2010 was adopted June 8, 1993, and updated November 2001. The City has a Park, Trails and Recreation Master Plan that was adopted May 30, 2002. The general plan states that this master plan is the guiding document for decisions regarding the provision of parks, trails, open space and recreation facilities, and programming in the City and is required to be in conformance with the general plan. The master plan lists the following goal and objective relating to recreational edge uses:

- Goal 2: Preserve non-agricultural open spaces, hillside and farm land viewsheds and natural resources in Brentwood's Planning Area as part of the amenities of the developing green space network in the City of Brentwood (City of Brentwood 2002, p. 55).
- Objective 2.1: Encourage the establishment of an edge to the developed area of the city to act as a buffer, recreational amenity, and trail connector to outlying regional trail systems. This edge should be in the form of a linear park and/or greenway and serve as a viewshed enhancement, ecological resource and reminder of Brentwood's continuing history as a part of California's agrarian culture. This objective will be accomplished in compliance with the General Plan (City of Brentwood 2002, p. 55).

### *16.3.6 Alameda County*

Only a small section of Alameda County is in the Delta. The Alameda County General Plan does not specifically address recreation within the Delta.

# 17.0 Transportation, Traffic, and Circulation Regulatory Framework

This section provides an overview of the plans, policies, and regulations relating to transportation, traffic, and circulation within the study area.

## 17.1 Federal Regulatory Framework

### *17.1.1 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users*

The 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) addresses challenges facing the United States transportation system, including improving safety, reducing traffic congestion, improving efficiency in freight movement, increasing intermodal connectivity, and protecting the environment (FHWA 2005). The act provides funding for the Emergency Relief Program, which provides for the repair or reconstruction of federal-aid highways and roads on federal lands that have suffered serious damage as a result of natural disasters or catastrophic failure from an external cause (FHWA 2011). Provisions of this act that pertain to federal highways are administered by the Federal Highway Administration (FHWA). The locations of federal highways in the

Delta and Suisun Marsh are shown in Figure 19-1 of this EIR. FHWA is responsible for carrying out the federal highway programs in partnership with State and local agencies to meet the nation's transportation needs (FHWA 2008).

### 17.1.2 Surface Transportation Assistance Act

The Surface Transportation Assistance Act (STAA) of 1982 allows large trucks, referred to as STAA trucks, to operate on routes that are part of the national network. FHWA provides standards for STAA trucks based on the 23 CFR Part 658. These standards designate the minimum truck sizes that all states must allow on the national network. In California, the national network is under the jurisdiction of Caltrans (Caltrans 2011).

### 17.1.3 Rivers and Harbors Act

The 1899 Rivers and Harbors Act prohibits the construction of any bridge, dam, dike, or causeway over or in navigable waterways of the United States without congressional approval. The USCG provides oversight of these structures (USFWS 2011). It is charged with protecting people, maritime commerce, and the environment against hazards in navigable waters of the United States (USCG 2010).

### 17.1.4 Federal Aviation Administration Airport Emergency Plan

The Federal Aviation Administration (FAA) is responsible for oversight of airports, air traffic control systems, and aircraft safety. Terrorist attacks and the 2004 and 2005 hurricane seasons highlighted the need for the FAA to focus on improving airport emergency management; incident response capabilities; and coordination processes across the nation during an airport emergency, which includes any occasion or instance, natural or human made, that warrants action to save lives and protect property and public health. The FAA developed the *Airport Emergency Plan* as a comprehensive national plan to improve the effectiveness of emergency management/response personnel across the full spectrum of potential incidents and hazard scenarios, including natural hazards, terrorist activities, and other human-made disasters (FAA 2010, p. 1). The *Airport Emergency Plan* guides airport operators on how to prepare for and respond to natural disasters, including flooding and water rescue events.

## 17.2 State Regulatory Framework

### 17.2.1 Emergency Relief Program

The Emergency Relief Program provides disaster assistance for damage to federal-aid highways. It was established by FHWA and is administered at the State and local levels by Caltrans. Projects qualifying for disaster assistance under this program must be located on federal-aid highways. Federal-aid highways are defined as all roads except those functionally classified as local roads or rural minor collectors (Caltrans 2001, p. 5).

## 17.3 Local Regulatory Framework

### 17.3.1 Metropolitan Planning Organizations

SAFETEA-LU provides funding for the integration of transportation planning processes in a metropolitan planning area (e.g., rail, airports, seaports, intermodal facilities, public highways and transit, and bicycle and pedestrian facilities) into a unified metropolitan transportation planning process, culminating in the preparation of a multimodal transportation plan for the area. In California, these metropolitan planning areas are administered by metropolitan planning organizations. Within the required framework of an integrated multimodal metropolitan transportation planning process, federal metropolitan transportation planning funds are also available to carry out metropolitan transportation planning for highways, regional transit, and bike/pedestrian improvements and strategies; ensure coordination of transportation planning

with other State and regional planning processes; and prepare a metropolitan transportation improvement program.

#### 17.3.1.1 Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. Of the nine San Francisco Bay Area counties, Alameda, Contra Costa, and Solano counties include portions of the Delta and Suisun Marsh. Additionally, Napa, San Francisco, San Mateo, and Santa Clara counties include portions of the Delta watershed. MTC functions as a State-designated regional transportation planning agency and, for federal purposes, the region's metropolitan planning organization. As such, MTC is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities. MTC also screens requests from local agencies for State and Federal grants for transportation projects to determine their compatibility with the plan (MTC 2011).

*Transportation 2035 Plan for the San Francisco Bay Area* (Transportation 2035 Plan), adopted by MTC in 2009, is primarily guided by the three principles of sustainability—economy, environment, and equity—as they relate to transportation planning in the San Francisco Bay Area region (MTC 2009, p. 6).

The Transportation 2035 Plan acknowledges that there is a potential for sea-level rise by the middle of the century (2040–2060). Identified shoreline areas vulnerable to sea-level rise in the Delta and Suisun Marsh include southern Solano County and portions of northeastern Contra Costa County along the Delta. Communities in these areas include Fairfield, Benicia, Suisun City, Pittsburg, Antioch, and Oakley (MTC 2009, p. 49). Effects from sea-level rise related to transportation and mobility include long-term impacts on roadways, transit service, freight movement, emergency access, and bicycle and pedestrian facilities in the region.

#### 17.3.1.2 Sacramento Area Council of Governments

The SACOG is an association of local governments in the six-county Sacramento region. Its members include El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba counties, as well as 22 incorporated cities. Sacramento and Yolo counties include a portion of the Delta, and all six of the Sacramento region counties are located in the Delta watershed. SACOG provides transportation planning and funding for the region and serves as a forum for the study and resolution of regional issues. In addition to preparing the region's long-range transportation plan, SACOG approves the distribution of affordable housing in the region and assists in planning for transit, bicycle networks, clean air, and airport land uses (SACOG 2011).

SACOG's *Metropolitan Transportation Plan for 2035* (MTP 2035), adopted in March 2008, links land use and transportation planning with $42 billion in transportation investments in the six-county Sacramento region over the next 28 years. With strategic investments in the Sacramento region's current transportation system, the intent of MTP 2035 is to curb the growth in traffic congestion each household experiences, create opportunities for residents of the region to spend less time in their cars, and improve air quality and overall quality of life (SACOG 2008, p. 1).

#### 17.3.1.3 San Joaquin Council of Governments

The San Joaquin Council of Governments (SJCOG) serves as the regional transportation planning agency and a technical and informational resource for San Joaquin County and the cities of Stockton, Lodi, Manteca, Tracy, Ripon, Escalon, and Lathrop. San Joaquin County includes a portion of the Delta. Although regional transportation planning is its primary role, SJCOG also evaluates population statistics, airport land use, habitat and open space planning, and other regional issues. It also fosters intergovernmental coordination in San Joaquin County and with neighboring jurisdictions, the State, and various Federal agencies (SJCOG 2011).

### *17.3.2 Local Circulation and Public Safety Elements*

Local jurisdictions, including counties and cities in the Delta and Suisun Marsh, prepare circulation elements and public health and safety elements as part of their general plans. Circulation elements include goals and polices that guide the existing and future development of roadways, transit, bicycle and pedestrian circulation, and other transportation features that may be under local jurisdiction, such as airports, ports, and marinas. Public safety elements often include guidance for emergency preparedness. Regarding transportation, emergency preparedness guidance may include identifying designated emergency routes for the local area.

### *17.3.3 General Plans and Levels of Service*

County General Plans usually categorize their primary road systems (e.g., arterial, collector, etc.), and set level-of-service standards for them, which define a scale to measures the amount of traffic a roadway may be capable of handling on a roadway or at the intersection of roadways. These standards are used to assess the performance of a street or highway system and the capacity of a roadway. Some communities in California are developing standards for levels of service relating to municipal functions such as police, fire, and library service. These standards are incorporated in the General Plan or in separate "Level of Service Plans."

# 18.0 Utilities and Service Systems Regulatory Framework

## 18.1 Federal Regulatory Framework

### *18.1.1 Clean Water Act*

The CWA is described in Section 1.0, Water Resources Regulatory Framework.

### *18.1.2 Safe Drinking Water Act*

The SDWA is described in Section 1.0, Water Resources Regulatory Framework.

### *18.1.3 Federal Energy Regulatory Commission*

The FERC is described previously in Section 15.1.3.

## 18.2 State Regulatory Framework

### *18.2.1 Porter-Cologne Water Quality Control Act*

The Porter-Cologne Act is discussed in Section 1.0, Water Resources Regulatory Framework.

### *18.2.2 California Public Utilities Commission*

The CPUC is discussed in Section 15.2.3.

### *18.2.3 California Department of Public Health*

The CDPH is discussed in Section 15.2.3.

### *18.2.4 California Energy Commission*

The California Energy Commission is discussed in Section 15.2.4.

# 18.3 Local Regulatory Framework

## *18.3.1 City and County General Plans*

### 18.3.1.1 Utilities

City and county general plans contain policies governing water, wastewater, stormwater, solid waste, energy, and telecommunications. Table D-26 lists local policies related to utilities in general.

Table D-26
City and County General Plan Policies Governing Utilities

| General Plan | Policies Governing Utilities |
|---|---|
| City of Sacramento | Utilities Element, Policies U 1.1.1 – U 1.1.12 |
| City of Elk Grove | Public Facilities and Finance Element, Policies PF-1 – PF-2 |
| Yolo County | Public Facilities and Services Element, Policies PF-11.3 – PF-11.4, PF-12.1 – PF-12.12 |
| Solano County | Public Facilities and Services Element, Policies PF.P-49 – PF.P-50 |
| City of Rio Vista | Public Facilities and Services Element, Policies 12.4.A – 12.4.C |
| City of Fairfied | Public Facilities and Services Element, Policies PF 12.1 – PF 12.3 |
| San Joaquin County | Community Development Element, Policies 1 – 6 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-1.1 – PFS-1.11 |
| City of Tracy | Community Character Element, Objective CC-1.5 and associated policy |
| City of Pittsburg | Public Facilities Element, Policies 11-P-30 – 11-P-33 |
| City of Brentwood | Infrastructure Element, Policy 1.1 |
| Alameda County | Public Facilities and Services Element, Policy 287 |

Sources: City and county general plans (see references)

### 18.3.1.2 Water Supply and Distribution

City and county general plans contain policies governing the construction, operation, and maintenance of water treatment, conveyance, and distribution infrastructure, and the provision of water supply services. Table D-27 lists general plan policies specific to water supply and distribution in the Delta.

Table D-27
City and County General Plan Policies Governing Water Supply and Distribution

| General Plan | Policies Governing Water Supply and Distribution |
|---|---|
| Sacramento County | Public Facilities Element, Policies PF-1 – PF-5 |
| City of Sacramento | Utilities Element, Policies U 2.1.1 – U 2.1.13 |
| City of Elk Grove | Public Facilities and Finance Element, Policies PF-3 – PF-7; Conservation and Air Quality Element, Policies CAQ-12 – CAQ-16 |
| Yolo County | Conservation and Open Space Element, Policies CO-5.1 – CO-5.23 |
| City of West Sacramento | Public Facilities and Services Element, Goal A and associated policies |
| Solano County | Public Facilities and Services Element, Policies PF.P-9 – PF.P-20 |
| City of Rio Vista | Public Facilities and Services Element, Policies 12.5.A – 12.5.B |
| City of Suisun City | Community Facilities and Services Element, Policies 2 – 3 |

Table D-27
City and County General Plan Policies Governing Water Supply and Distribution

| General Plan | Policies Governing Water Supply and Distribution |
|---|---|
| City of Fairfied | Public Facilities and Services Element, Policies PF 4.1 – PF 5.6 |
| City of Benecia | Community Services Element, Policies 2.36.1 – 2.39.1 |
| San Joaquin County | Community Development Element, Policies 1 – 7 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-2.1 – PFS-2.13 |
| City of Lathrop | Community Development Element, Policies 1 – 5 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-4 – PF-P-17 |
| City of Tracy | Public Facilities and Services Element, Objectives PF-6.1 – PF-6.5 and associated policies |
| Contra Costa County | Public Facilities and Services Element, 7-16 – 7-28 |
| City of Antioch | Public Services and Facilities Element, Policies a – h |
| City of Pittsburg | Public Facilities Element, Policies 11-P-1 – 11-P-10 |
| City of Oakley | Growth Management Element, Policies 4.8.1 – 4.8.14 |
| City of Brentwood | Public Facilities Element, Policies 1.2 – 1.3 |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 251 – 263 |

Sources: City and county general plans (see references)

#### 18.3.1.3 Wastewater Collection and Treatment

City and county general plans contain policies governing the construction, operation, and maintenance of wastewater collection and treatment infrastructure, and the provision of wastewater collection services. Table D-28 lists general plan policies specific to wastewater collection and treatment in the Delta counties.

Table D-28
City and County General Plan Policies Governing Wastewater Collection and Treatment

| General Plan | Policies Governing Wastewater Collection and Treatment |
|---|---|
| Sacramento County | Public Facilities Element, Policies PF-6 – PF-18 |
| City of Sacramento | Utilities Element, Policies U 3.1.1 – U 3.1.4 |
| City of Elk Grove | Public Facilities and Finance Element, Policies PF-8 – PF-14 |
| Yolo County | Public Facilities and Services Element, Policies PF-1.1 – PF-1.7 |
| City of West Sacramento | Public Facilities and Services Element, Goal B and associated policies |
| Solano County | Public Facilities and Services Element, Policies PF.P-21 – PF.P-22 |
| City of Rio Vista | Public Facilities and Services Element, Policy 12.6.A |
| City of Suisun City | Community Facilities and Services Element, Policy 4 |
| City of Fairfied | Public Facilities and Services Element, Policies PF 6.1 – PF 7.2 |
| City of Benecia | Community Services Element, Policies 2.40.1 – 2.41.2 |
| San Joaquin County | Community Development Element, Policies 1 – 9 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-3.1 – PFS-3.8 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-18 – PF-P-25 |

Table D-28
City and County General Plan Policies Governing Wastewater Collection and Treatment

| General Plan | Policies Governing Wastewater Collection and Treatment |
|---|---|
| City of Tracy | Public Facilities and Services Element, Objectives PF-7.1 – PF-7.4 and associated policies |
| Contra Costa County | Public Facilities and Services Element, Policies 7-29 – 7-37 |
| City of Antioch | Public Services and Facilities Element, Policies a – j |
| City of Pittsburg | Public Facilities Element, Policies 11-P-11 – 11-P-18 |
| City of Oakley | Growth Management Element, Policies 4.9.1 – 4.9.4 |
| City of Brentwood | Infrastructure Element, Policy 1.4 |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 264 - 276 |

Sources: City and county general plans (see references)

#### 18.3.1.4 Stormwater Drainage

City and county general plans contain policies governing the construction and maintenance of stormwater drainage infrastructure and policies related to flood control and prevention. Table D-29 lists general plan policies specific to stormwater drainage in the Delta area.

Table D-29
City and County General Plan Policies Governing Stormwater Drainage

| General Plan | Policies Governing Stormwater Drainage |
|---|---|
| Sacramento County | Conservation Element, Policies CO-9 – CO-12 |
| City of Sacramento | Utilities Element, Policies U 4.1.1 – U 4.1.5 |
| City of Elk Grove | Conservation and Air Quality Element, Policies CAQ-17 – CAQ-24 |
| Yolo County | Public Facilities and Services Element, Policies PF-2.1 – PF-2.4 |
| City of West Sacramento | Public Facilities and Services Element, Goal C and associated policies |
| Solano County | Public Facilities and Services Element, Policies PF.P-32 – PF.P-37 |
| City of Rio Vista | Safety Element, Policies 11.2.A – 11.2.D |
| City of Suisun City | Community Facilities and Services Element, Policy 5 |
| City of Fairfied | Public Facilities and Services Element, Policies PF 8.1 – PF 9.4 |
| City of Benecia | Community Services Element, Policy 2.38.1 |
| San Joaquin County | Community Development Element, Policies 1 – 6 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-4.1 – PFS-4.8 |
| City of Lathrop | Community Development Element, Policies 1 – 9 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-26 – PF-P-28; Land Use Element, Policy LU-P-48 |
| City of Tracy | Public Facilities and Services Element, Objectives PF-8.1 – PF-8.2 and associated policies |
| Contra Costa County | Public Facilities and Services Element, Policies 7-38 – 7-56 |
| City of Antioch | Public Services and Facilities Element, Policies a – f |
| City of Pittsburg | Resource Conservation Element, Policies 9-P-15 – 9-P-21 |
| City of Oakley | Growth Management Element, Policies 4.10.1 – 4.10.12 |

Table D-29
City and County General Plan Policies Governing Stormwater Drainage

| General Plan | Policies Governing Stormwater Drainage |
|---|---|
| City of Brentwood | Infrastructure Element, Policy 1.5 |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 277 - 283 |

Sources: City and county general plans (see references)

### 18.3.1.5 Solid Waste Collection and Disposal

City and county general plans contain policies governing the construction and operation of solid waste disposal facilities and the provision of solid waste collection services. Table D-30 lists general plan policies specific to solid waste collection and disposal in the Delta area.

Table D-30
City and County General Plan Policies Governing Solid Waste Collection

| General Plan | Policies Governing Solid Waste Collection |
|---|---|
| Sacramento County | Public Facilities Element, Policies PF-19 – PF-25 |
| City of Sacramento | Utilities Element, Policies U 5.1.1 – U 5.1.21 |
| City of Elk Grove | Conservation and Air Quality Element, Policy CAQ-25 |
| Yolo County | Public Facilities and Services Element, Policies PF-9.1 – PF-9.11 |
| City of West Sacramento | Public Facilities and Services Element, Goal D and associated policies |
| Solano County | Public Facilities and Services Element, Policies PF.P-23 – PF.P-31 |
| City of Rio Vista | Public Facilities and Services Element, Policy 12.7.A |
| City of Fairfied | Public Facilities and Services Element, Policies PF 13.1 – PF 14.1 |
| City of Benecia | Community Services Element, Policy 2.42.1 |
| San Joaquin County | Community Development Element, Policies 1 – 7 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-5.1 – PFS-5.7 |
| City of Lathrop | Resource Management Element, Policy 7 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-31 – PF-P-32 |
| City of Tracy | Public Facilities and Services Element, Objective PF-5.1 and associated policies |
| Contra Costa County | Public Facilities and Services Element, Policies 7-87 – 7-91 |
| City of Antioch | Public Services and Facilities Element, Policies a – j |
| City of Pittsburg | Public Facilities Element, Policies 11-P-19 – 11-P-23 |
| City of Oakley | Growth Management Element, Policies 4.7.1 – 4.7.9 |
| City of Brentwood | Infrastructure Element, Policies 1.6 – 1.7; Conservation and Open Space Element, Policy 7.1 |
| Alameda County | East County Area Plan, Land Use Element, Policies 151 – 153; Public Services and Facilities Element, Policies 247 - 250 |

Sources: City and county general plans (see references)

### 18.3.1.6 Energy Generation and Transmission

City and county general plans contain policies governing the construction and operation of energy generation and transmission/distribution infrastructure and the provision of electricity, natural gas, and propane services. General plans also contain policies regarding energy conservation. Table D-31 lists general plan policies specific to energy in the Delta area.

Table D-31
City and County General Plan Policies Governing Energy Generation and Transmission

| General Plan | Policies Governing Energy Generation and Transmission |
|---|---|
| Sacramento County | Public Facilities Element, Policies PF-70 – PF-122 |
| City of Sacramento | Utilities Element, Policies U 6.1.1 – U 6.1.14 |
| City of Elk Grove | Conservation and Air Quality Element, Policy CAQ-27; Land Use Element, Policy LU-38; Public Facilities and Finance Element, Policy PF-4 |
| Yolo County | Public Facilities and Services Element, Policies PF-10.1 – PF-10.3, PF-11.1 |
| City of West Sacramento | Housing Element, Goal C and associated policies |
| Solano County | Resources Element, Policies RS.P-49 – RS.P-59 |
| City of Rio Vista | Public Facilities and Services Element, Policy 12.4.F |
| City of Fairfied | Housing Element, Policies HO 8.1 – HO 8.3; Open Space Element, Policies OS 8.4 – OS 8.5 |
| San Joaquin County | Resources Element, Policies 1 – 12 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-6.1 – PFS-6.2; Natural and Cultural Resources Element, Policies NCR-8.1 – NCR-8.9 |
| City of Lathrop | Housing Element, Policy 4-1-3 |
| City of Manteca | Public Facilities and Services Element, Policies PF-P-29 – PF-P-30; Resource Conservation Element, Policies RC-P-6 – RC-P-9 |
| City of Tracy | Open Space and Conservation Element, Policies OSC-5.1 – OSC-5.3 and associated policies |
| Contra Costa County | Land Use Element, Policy 3-20; Conservation Element, Policies 8-49 – 8-53 |
| City of Antioch | Resource Management Element, Policies a – i; Housing Element, Policy 4.1 |
| City of Pittsburg | Public Facilities Element, Policies 11-P-30 – 11-P-33; Housing Element, Policy 2.6 |
| City of Oakley | Housing Element, Policy Action 1.5 |
| City of Brentwood | Conservation and Open Space Element, Policy 5.2 |
| Alameda County | East County Area Plan, Public Services and Facilities Element, Policies 285 - 287 |

Sources: City and county general plans (see references)

### 18.3.1.7 Telecommunications

City and county general plans contain policies governing the provision of telephone, cable, and internet services. Table D-32 lists general plan policies specific to telecommunications in the Delta area.

Table D-32
City and County General Plan Policies Governing Telecommunications

| General Plan | Policies Governing Telecommunications |
|---|---|
| City of Sacramento | Utilities Element, Policies U 7.1.1 – U 7.1.8 |
| Yolo County | Public Facilities and Services Element, Policy PF-11.2 |
| City of West Sacramento | Public Facilities and Services Element, Goal I and associated policy |
| Solano County | Public Facilities and Services Element, Policy PF.P-52 |
| City of Rio Vista | Public Facilities and Services Element, Policies 12.4.D – 12.4.E |
| City of Benecia | Community Services Element, Policy 2.43.1 |
| City of Stockton | Public Facilities and Services Element, Policies PFS-10.1 – PFS-10.8 |

Sources: City and county general plans (see references)

# 19.0 Paleontological Resources Regulatory Setting

## 19.1 Federal Regulatory Framework

The Antiquities Act of 1906 (Public Law 59-209; 16 USC section 431 et seq.; 34 Stat. 225) requires protection of historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest on federal lands. Paleontological resources are included in this category by many federal agencies such as the Bureau of Land Management. In addition, the NEPA (USC section 4321 et seq.; 40 CFR section 1502.25), as amended, requires federal agencies to consider the impact of their actions (including the issuance of entitlements or permits, or financial support, to a project) on important historic, cultural, and natural aspects of our national heritage. Because federally managed lands may be affected by this project and because federal entitlement or permits will be required, these statutes extend to paleontological resources in the Delta.

## 19.2 State Regulatory Framework

CEQA (Pub. Resources Code sections 21000 et seq.) requires that public agencies and private interests identify the environmental consequences of their proposed projects on any object or site of significance to the scientific annals of California (Division I, Pub. Resources Code: 5020.1 (b)). The Guidelines for the Implementation of CEQA (Pub. Resources Code sections 15000 et seq.) defines procedures, types of activities, persons, and public agencies required to comply with CEQA. Section 10 of this EIR, Cultural Resources, presents CEQA significance criteria and thresholds of significance for the evaluation of environmental effects of the project.

Although CEQA does not define what is "a unique paleontological resource or site," section 21083.2 defines "unique archaeological resources" as "…any archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information

- Has a special and particular quality such as being the oldest of its type or the best available example of its type
- Is directly associated with a scientifically recognized, important prehistoric or historic event."

This definition is equally applicable to recognizing "a unique paleontological resource or site." Additional guidance is provided in CEQA section 15064.5 (a)(3)(D), which indicates "generally, a resource shall be considered historically significant if it has yielded, or may be likely to yield, information important in prehistory or history."

Other State requirements for paleontological resource management are in Pub. Resources Code Chapter 1.7, section 5097.5/5097.9 (Stats. 1965, c. 1136, p. 2792), entitled Archaeological, Paleontological, and Historical Sites. This statute defines any unauthorized disturbance or removal of a fossil site or remains on public land as a misdemeanor, and specifies that State agencies may undertake surveys, excavations, or other operations as necessary on State lands to preserve or record paleontological resources.

## 19.3 Local Regulatory Framework

California Planning and Zoning Law requires each County and city jurisdiction to adopt a comprehensive, long-term general plan for its development. The general plan is a policy document designed to give long-range guidance to decision makers that would affect the future character of the planning area. It represents the official statement of the community's physical development and its environmental goals. A general plan also acts to clarify and articulate the relationship and intentions of local government to the rights and expectations of the general public, property owners, and prospective investors. Through its general plan, the local jurisdiction can inform these groups of its goals, policies, and development standards, thereby communicating what must be done to meet its objectives. Most County general plans have no provision for the preservation of paleontological resources; however, as general plans are updated, they often include oversight of paleontological resources in response to increased public awareness of the value of that resource.

The general plans or development guidance for Sacramento, Yolo, and San Joaquin counties place emphasis on the preservation of historic and cultural values, and on compliance with CEQA. However, their planning documents do not directly address consideration of paleontological resources. Solano and Alameda Counties have included specific provisions to preserve paleontological resources.

### *19.3.1 Solano County*

The updated 2008 Solano County General Plan addresses paleontological resources in its attendant EIR (Solano County 2008). Another component of the 2008 Draft General Plan relevant to paleontological resources is the Cultural and Paleontological Resources Background Report (Solano County 2006). In its impact analysis, the EIR notes:

> *Development within Solano County in accordance with the 2008 Draft General Plan under the Preferred Plan [or the Maximum Development Scenario] may result in the destruction of paleontological resources. This impact would be potentially significant.*

The EIR further states that, to reduce potentially significant impacts to paleontological resources to a less-than-significant level the county will implement the following measures:

- (a) Actions that do not meet the CEQA definition of a "project" and therefore do not require an environmental analysis under the CEQA process shall not be required to perform a paleontological resources analysis.
- (b) All projects in Solano County that are subject to a CEQA evaluation shall include a site-specific analysis of paleontological resources. At a minimum, the site-specific analysis shall

include a review of the types of the geologic formation(s) present at the project site and a determination of the likelihood that those formation(s) would contain a "unique paleontological resource" as stated in Title 14, California Code of Regulations, Appendix G (the CEQA checklist). If the site-specific analysis determines that a project may have an adverse effect on a "unique paleontological resource," the County shall require that project specific mitigation measures be implemented to address the following:

- Cessation of work in the vicinity of the find and notification of the County Planning Department and the lead agency for the project;
- Retention by the project applicant of a qualified paleontologist to evaluate the resource and prepare a proposed mitigation plan, which may include some or all of the following elements: a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings; and
- Implementation of recommendations made by the paleontologist, where the lead agency for the project determines that said recommendations are necessary and feasible.

### *19.3.2 Alameda County*

The Alameda County *East County Area Plan* (Alameda County 1994) places emphasis on the preservation of historic and cultural resources, including heritage resources, but does not address paleontological resources directly. County approval of projects does include review of projects for CEQA compliance with respect to paleontological resources.

# 20.0 Climate Change and Greenhouse Gas Emissions Regulatory Framework

## 20.1 Federal Regulatory Framework

### *20.1.1 Guidance on National Environmental Policy Act Consideration of GHGs and Climate Change*

On February 18, 2010, the Council on Environmental Quality (CEQ) provided a draft guidance memorandum for public consideration and comment (CEQ 2010). This document provides guidance so that federal agencies can improve their consideration of the effects of greenhouse gas (GHG) emissions and climate change in their evaluation of proposals for federal actions under NEPA, 42 USC 4321 et seq.

This draft guidance is intended to help explain how federal agencies should analyze the environmental effects of GHG emissions and climate change when they describe the environmental effects of a proposed agency action in accordance with section 102 of NEPA and the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA, 40 CFR 1500–1508. This draft guidance affirms the requirements of the statute and regulations and their applicability to GHGs and climate change impacts.

### *20.1.2 Mandatory Greenhouse Gas Reporting Rule*

On September 22, 2009, USEPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required USEPA to develop "… mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy…" The Reporting Rule would apply to most entities that emit 25,000 metric tons of carbon dioxide equivalents ($CO_2e$) or more per year. Starting in 2010, facility

owners are required to submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule would also mandate recordkeeping and administrative requirements in order for USEPA to verify annual GHG emissions reports (DWR 2010, p. 4).

#### 20.1.2.1 Environmental Protection Agency Endangerment and Cause and Contribute Findings

On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under section 202(a) of the CAA:

- **Endangerment Finding:** the current and projected concentrations of the six key well-mixed GHGs—carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$)—in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare (DWR 2010, p. 4).

## 20.2 State Regulatory Framework

Table D-33 provides a summary of State laws and executive orders that address climate change in California (DWR 2010, pp. 4-5).

Table D-33
Summary of State Laws and Executive Orders that Address Climate Change

| Legislation Name | Signed into Law/ Ordered | Description | CEQA Relevance |
|---|---|---|---|
| SB 1771 | 09/2000 | Establishment of California Climate Registry to develop protocols for voluntary accounting and tracking of GHG emissions. | In 2007, DWR began tracking GHG emissions for all departmental operations. |
| AB 1473 | 07/2002 | Directs ARB to establish fuel standards for noncommercial vehicles that would provide the maximum feasible reduction of GHGs. | Reduction of GHG emissions from noncommercial vehicle travel. |
| SB 1078<br>SB 107<br>EO S-14-08 | 09/2002<br>09/2006<br>11/2008 | Establishment of renewable energy goals as a percentage of total energy supplied in the State. | Reduction of GHG emissions from purchased electrical power. |
| EO S-3-05<br>AB 32[a] | 06/2005<br>09/2006 | Establishment of statewide GHG reduction targets and biennial science assessment reporting on climate change impacts and adaptation and progress toward meeting GHG reduction goals. | Projects required to be consistent with statewide GHG reduction plan and reports will provide information for climate change adaptation analysis. |
| SB 1368 | 9/2006 | Establishment of GHG emission performance standards for base load electrical power generation. | Reduction of GHG emissions from purchased electrical power. |
| EO S-1-07 | 01/2007 | Establishment of Low Carbon Fuel Standard. | Reduction of GHG emissions from transportation activities. |
| SB 97[a] | 08/2007 | Directs OPR to develop guideline amendments for the analysis of climate change in CEQA documents. | Requires climate change analysis in all CEQA documents. |

Table D-33
Summary of State Laws and Executive Orders that Address Climate Change

| Legislation Name | Signed into Law/ Ordered | Description | CEQA Relevance |
|---|---|---|---|
| SB 375 | 09/2008 | Requires metropolitan planning organizations to include sustainable communities strategies in their regional transportation plans. | Reduction of GHG emissions associated with housing and transportation. |
| EO S-13-08[a] | 11/2008 | Directs the Resource Agency to work with the National Academy of Sciences to produce a California Sea Level Rise Assessment Report. And directs CAT to develop a California Climate Adaptation Strategy. | Information in the reports will provide information for climate change adaptation analysis. |

Source: (DWR 2010, pp. 4-5)
[a] Most significant laws and orders, elaborated further in the following discussion.

### *20.2.1 California Environmental Quality Act and SB 97*

The CEQA requires lead agencies to consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute to global climate change. In turn, global climate change has the potential to: raise sea levels, affect rainfall and snowfall, and affect habitat (DWR 2010, pp. 5-6).

### *20.2.2 Senate Bill 97*

The provisions of SB 97, enacted in August 2007 as part of the State Budget negotiations and codified at section 21083.05 of the Pub. Resources Code, direct the OPR to propose CEQA Guidelines "for the mitigation of GHG emissions or the effects of GHG emissions." SB 97 directs OPR to develop such Guidelines by July 2009, and directs the State Resources Agency (now Natural Resources Agency), the agency charged with adopting the CEQA Guidelines, to certify and adopt such Guidelines by January 2010. In April 2009, OPR prepared draft CEQA Guidelines and submitted them to the Natural Resources Agency (see below). On July 3, 2009, the Natural Resources Agency began the rulemaking process established under the Administrative Procedure Act.

The Natural Resources Agency recommended amendments for GHGs fit within the existing CEQA framework for environmental analysis, which calls for lead agencies to determine baseline conditions and levels of significance, and to evaluate mitigation measures. The proposed guideline amendments do not identify a threshold of significance for GHG emissions nor do they prescribe assessment methodologies or specific mitigation measures. The guidelines amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion that CEQA grants lead agencies to make their own determinations based on substantial evidence.

Proposed CEQA Guidelines section 15064.4, *Determining the Significance of Impacts from Greenhouse Gas Emissions*, encourages lead agencies to consider three factors to assess the significance of GHG emissions: (1) will the project increase or reduce GHGs as compared to baseline; (2) will the project's GHG emissions exceed the lead agency's threshold of significance; and (3) does the project comply with regulations or requirements to implement a statewide, regional, or local GHG reduction or mitigation plan. Proposed CEQA Guidelines section 15064.4 also recommends that lead agencies make a good-faith effort, based on available information, to describe, calculate or estimate the amount of GHG emissions associated with a project.

Proposed CEQA Guidelines section 15126.4, *Consideration and Discussion of Mitigation Measures Proposed to Minimize Significant Effects*, includes considerations for lead agencies related to feasible mitigation measures to reduce GHG emissions, including but not limited to project features, project design, or other measures which are incorporated into the project to substantially reduce energy consumption or GHG emissions; compliance with the requirements in a previously approved plan or mitigation program for the reduction or sequestration of GHG emissions, which plan or program provides specific requirements that will avoid or substantially lessen the potential impacts of the project; and measures that sequester carbon or carbon-equivalent emissions. In addition, proposed amended CEQA Guidelines section 15126.4 includes a requirement that where mitigation measures are proposed for reduction of GHG emissions through off-site measures or purchase of carbon offsets, these mitigation measures must be part of a reasonable plan of mitigation that the relevant agency commits itself to implementing.

In addition, as part of the draft CEQA Guideline amendments and additions, a new set of environmental checklist questions (VII. *Greenhouse Gas Emissions*) to the CEQA Guidelines Appendix G are proposed (DWR 2010, pp. 6-7). The new set asks whether a project would

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

2. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

#### 20.2.2.1 Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under CEQA

CEQA gives discretion to lead agencies to establish thresholds of significance based on individual circumstances. To assist in that exercise, and because OPR believes the unique nature of GHGs warrants investigation of a statewide threshold of significance for GHG emissions, OPR engaged the ARB technical staff to recommend a methodology for setting thresholds of significance. In October 2008, ARB released a Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (ARB 2008 as cited in DWR 2010, p.7). This draft proposal included a conceptual approach for thresholds associated with industrial, commercial, and residential projects. With respect to nonindustrial projects, the steps to presuming a less-than-significant impact related to climate change generally include analyzing whether the project is exempt under existing statutory or categorical exemptions, complies with a previously approved plan or target, meets specified minimum performance standards and falls below an as yet unspecified annual emissions level (ARB 2008 as cited in DWR 2010, p.7). The performance standards focus on construction activities, energy and water consumption, generation of solid waste, and transportation. For industrial projects, the draft proposal recommends a tiered analysis procedure similar to non-industrial projects. However, for industrial projects a quantitative annual emissions limit for less than significant impacts is established at ~7000 MT $CO_2$e. To date, these standards have not been adopted or finalized as a basis to evaluate the significance of a project's contribution to climate change (DWR 2010, p. 7).

### 20.2.3 Executive Order S-3-05

Executive Order S-3-05 made California the first state to formally establish GHG emissions reduction goals. Executive Order S-3-05 includes the following GHG emissions reduction targets for California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels; and
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

The final emission target of 80 percent below 1990 levels would put the State's emissions in line with estimates of the required worldwide reductions needed to bring about long-term climate stabilization and avoidance of the most severe impacts of climate change (IPCC 2007 as cited in DWR 2010, p. 8).

Executive Order S-3-05 also dictated that the Secretary of Cal/EPA coordinate oversight of efforts to meet these targets with the Secretary of the Business, Transportation and Housing Agency; Secretary of the Department of Food and Agriculture; Secretary of the Resources Agency; Chairperson of the Air Resources Board; Chairperson of the Energy Commission; and the President of the Public Utilities Commission. This group was subsequently named the Climate Action Team.

As laid out in the Executive Order, the Climate Action Team has submitted biannual reports to the governor and State legislature describing progress made toward reaching the targets (DWR 2010, pp. 7-8).

### 20.2.4 Assembly Bill 32

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; Health & Saf. Code Division 25.5, sections 38500, et seq., or AB 32). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05—reduce GHG emissions to 1990 levels by 2020. AB 32 also identifies ARB as the State agency responsible for the design and implementation of emissions limits, regulations, and other measures to meet the target.

The statute lays out the schedule for each step of the regulatory development and implementation.

- By June 30, 2007, ARB had to publish a list of early-action GHG emission reduction measures.
- Prior to January 1, 2008, ARB had to: identify the current level of GHG emissions by requiring statewide reporting and verification of GHG emissions from emitters and identify the 1990 levels of California GHG emissions.
- And by January 1, 2010, ARB had to adopt regulations to implement the early-action measures

In December 2007, ARB approved the 2020 emission limit (1990 level) of 427 million metric tons of $CO_2$ equivalents of GHGs. The 2020 target requires the reduction of 169 million metric tons of $CO_2e$, or approximately 30 percent below the State's projected "business-as-usual" 2020 emissions of 596 million metric tons of $CO_2e$.

Also in December 2007, ARB adopted mandatory reporting and verification regulations pursuant to AB 32. The regulations became effective January 1, 2009, with the first reports covering 2008 emissions. The mandatory reporting regulations require reporting for major facilities, those that generate more than 25,000 metric tons/year of $CO_2e$. To date, ARB has met all of the statutorily mandated deadlines for promulgation and adoption of regulations (DWR 2010, pp. 8-9).

#### 20.2.4.1 Climate Change Scoping Plan

On December 11, 2008, pursuant to AB 32, ARB adopted the Climate Change Scoping Plan (CCSP). This plan outlines how emissions reductions will be achieved from significant sources of GHGs via

regulations, market mechanisms, and other actions. Six key elements, outlined in the scoping plan, are identified to achieve emissions reduction targets:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

The CCSP also recommended 39 measures that were developed to reduce GHG emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving our natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures will be in place by 2012, and will put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels (DWR 2010, p. 9).

The CCSP identifies a cap-and-trade program as one of the strategies California will use to meet its goals to reduce GHG emissions to 1990 levels by the year 2020, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors will be established. Facilities subject to the cap will be able to trade permits (allowances) to emit GHGs, as long as the overall limit is not exceeded (ARB 2011).

### *20.2.5 Executive Order S-13-08*

Executive Order S-13-08, issued November 14th, 2008, directs the California Natural Resources Agency, DWR, OPR, FERC, SWRCB, State Parks, and California's coastal management agencies to participate in a number of planning and research activities to advance California's ability to adapt to the impacts of climate change. The order specifically directs agencies to work with the National Academy of Sciences to initiate the first California Sea Level Rise Assessment and to review and update the assessment every 2 years after completion; immediately assess the vulnerability of the California transportation system to sea level rise; and to develop a California Climate Change Adaptation Strategy (DWR 2010, pp. 9-10).

### *20.2.6 California Climate Change Adaptation Strategy*

In cooperation and partnership with multiple State agencies, the 2009 California Climate Adaptation Strategy summarizes the best known science on climate change impacts in seven specific sectors (public health, biodiversity and habitat, ocean and coastal resources, water management, agriculture; forestry, and transportation and energy infrastructure) and provides recommendations on how to manage against those threats (DWR 2010, p. 10).

# 20.3 Local Regulatory Framework

The ARB Scoping Plan (January 2009) (The Scoping Plan) states that local governments are "essential partners" in the effort to reduce GHG emissions. The Scoping Plan also acknowledges that local governments have "broad influence and, in some cases, exclusive jurisdiction" over activities that contribute to significant direct and indirect GHG emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Many of the proposed measures to reduce GHG emissions rely on local government actions. The Scoping Plan encourages local governments to reduce GHG emissions by approximately 15 percent from current levels by 2020 (ARB 2008b as cited in DWR 2010, p. 10).

## *20.3.1 Regional and Local Air District Programs*

The primary planning area (the Delta and Suisun Marsh) are located within a portion of three California air basins: the Sacramento Valley Air Basin, the San Joaquin Valley Air Basin, and the San Francisco Bay Area Air Basin. The Sacramento Valley Air Basin includes portions of Sacramento, Yolo, and Solano counties and is under the jurisdiction of the SMAQMD and the YSAQMD. Portions of the primary planning area lie in San Joaquin County, in the San Joaquin Valley Air Basin, which is overseen by the SJVAPCD. The Delta and Suisun Marsh include portions of Alameda, Contra Costa, and southern Solano counties in the San Francisco Bay Area Air Basin, which is overseen by the BAAQMD.

Air districts are required to develop and enforce local rules and regulations to attain and maintain healthful air within their jurisdiction. In past years, air districts were primarily concerned with emissions of criteria air pollutants, ozone precursors, odors, and toxic air contaminants. GHG emissions are now considered air pollutants that can endanger the public health and welfare, as a result of the USEPA's Endangerment Finding. Pursuant to the CAA, USEPA is required to develop a regulatory framework to regulate GHG emissions on the national level. On the State level, ARB is tasked with regulating GHG emissions as directed by AB 32. In the absence of a fully structured regulatory environment for GHG emissions (e.g., significance thresholds, specific analysis guidance), air districts have taken the initiative to develop GHG guidance and programs to assist lead agencies to evaluate, analyze, and reduce GHG emissions from plans and projects.

The primary effect of these district programs will be a requirement for Delta Plan elements to be consistent with the goals and objectives of the district programs. Individual projects undertaken as part of the Delta Plan implementation will be required to estimate emissions and compare project-related emissions to CEQA significance thresholds, and provide mitigation for impacts deemed significant.

The following section describes the GHG programs developed by the districts overseeing air quality in the Delta and Suisun Marsh.

### 20.3.1.1 Sacramento Metropolitan Air Quality Management District Climate/GHG Programs

In March 2006, the SMAQMD Board of Directors adopted the Climate Protection Program. This program is responsible for providing public outreach and education, collecting and analyzing GHG emissions data, and supporting Federal, State, and local GHG emission reduction efforts.

In December 2009, SMAQMD updated its *CEQA Guide to Air Quality Assessment*, which provides guidance for GHG emissions analyses (SMAQMD 2009, Chapter 6, pp. 6-1 – 6-13). The GHG chapter discusses applicable GHG emission sources, GHG analysis expectations, GHG quantification resources and documents, methods for determining significance, and mitigation options. SMAQMD suggests that GHG emissions are best analyzed on the program level; however, the guidance document provides methods and guidance for both program- and project-level analysis. Although the guidance does not propose a quantitative significance threshold, it suggests that projects and plans develop a GHG Reduction Plan that describes how the project will reduce GHG emissions from construction and

operational activities. Mitigation of GHG emissions can be achieved through the proposed GHG Reduction Plan, an existing GHG reduction plan (e.g., applicable approved climate action plan, AB 32 Scoping Plan), project design features, off-site measures (e.g., offsets), and/or sequestration measures.

#### 20.3.1.2 San Joaquin Valley Air Pollution Control District Climate/GHG Programs

In August 2008, the governing board of the SJVAPCD adopted a Climate Change Action Plan (CCAP). The CCAP authorized the District's air pollution control officer to develop guidance documents to streamline the evaluation and significance determination process for projects within the SJVAPCD's jurisdiction.

In December 2009, as directed by the CCAP, SJVAPCD adopted two guidance documents: *Addressing Greenhouse Gas Emissions Impacts under the California Environmental Quality Act* (SJVAPCD 2009b), and *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* (SJVAPCD 2009c). The district also issued a policy, *Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency* (SJVAPCD 2009a), to assist projects, lead agencies, and interested parties in assessing and reducing GHG emissions.

Under the SJVAPCD CEQA guidance, the GHG impact of a stationary source or development project would be evaluated using performance-based standards called Best Performance Standards (BPSs) (SJVAPCD 2009b, pp. 71-150). The SJVAPCD is in the process of developing pre-qualified BPSs that represent the most effective methods to reduce GHG emissions. BPSs would apply to categories such as energy efficiency, vehicle use, and land use planning.

In order to be considered to have less-than-significant impacts with respect to GHG emissions, projects must implement all necessary BPSs, or otherwise demonstrate a 29 percent reduction of GHG emissions from business as usual conditions (SJVAPCD 2009b, p. 69). In addition, a project's GHG emissions would also be considered less than significant if the project would comply with an approved GHG reduction plan and/or mitigation program (SJVAPCD 2009b, p. 40).

#### 20.3.1.3 Bay Area Air Quality Management District Climate/GHG Programs

The BAAQMD has established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy. BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance, and promotion of collaborative efforts among stakeholders (BAAQMD 2010, p. C-28).

In June 2010, BAAQMD adopted its new *CEQA Air Quality Guidelines*, which include recommended guidance for analysis and quantitative thresholds of significance for GHG emissions (BAAQMD 2010). GHG emissions occurring within the BAAQMD jurisdiction would be evaluated for their significance based on the following significance thresholds. For individual land use development projects, long-term operational emissions of GHGs would result in a cumulatively considerable contribution of GHG emissions and a significant impact on global climate change if:

- Operation-related GHG emissions would exceed 1,100 metric tons of $CO_2e$ per year; and
- The GHG efficiency of the project would be greater than 4.6 metric tons of $CO_2e$ per year per service population[3]; or
- The project would be inconsistent with a qualified GHG reduction strategy[4]

[3] Service population is defined as the sum of the number of jobs and the number of residents provided by a proposed project (BAAQMD, 2010b, p. D-22).

All GHG thresholds of significance became effective the date the CEQA Air Quality Guidelines were adopted.

The CEQA Guidelines were updated in May 2011 to reflect the Air District's recently released refined risk and hazard analysis tools. The updated CEQA Guidelines include other clarifications and revisions to further assist lead agencies in implementing the Air District's thresholds of significance.

## *20.3.2 Example General Plans*

Several of the counties and cities in the study area have developed general plans or action plans that specifically address GHG emissions reductions and climate change. Two examples, the recent general plans for Solano County and Yolo County, are described in the following.

### 20.3.2.1 Solano County General Plan

The *Solano County General Plan* was adopted on August 5, 2008. As described in Chapter 5, Public Health and Safety, Solano County has established a GHG emissions reduction goal of 20 percent below 1990 levels by 2020 (Solano County 2008, p. HS-100). To achieve this goal, the county has identified a broad spectrum of policies and implementation programs. Policies contained in the general plan that act to indirectly reduce GHG emissions include the following (Solano County 2008, pp. HS-70 – HS-74):

- **Policy HS.P-47:** Promote GHG emission reductions by supporting carbon efficient farming methods (e.g., methane capture systems, no-till farming, crop rotation, cover cropping, residue farming); installation of renewable energy technologies; protection of grasslands, open space, and farmlands from conversion to other uses; and encouraging development of energy-efficient structures.
- **Policy HS.I-55:** Develop a GHG emissions inventory according to the most recently established methodologies of the California Climate Action Registry or California Air Resources Board. At the time of writing this report the most recently established methodology is the California Climate Action Registry's General Reporting Protocol, Version 2.2.
- **Policy HS.I-56:** Develop a GHG emission reduction plan for Solano County and explore membership in the California Climate Action Registry. This should be done in conjunction with the County's Climate Action Plan found in HS.I-73.
- **Policy HS.I-57:** Comply with all Federal and/or State GHG emission reduction targets to reduce the County's contribution to global climate change. The plan should include strategies to reduce vehicle miles traveled, energy consumption, and other sources of GHGs within the county. This should be done in conjunction with the County's Climate Action Plan found in HS.I-73.
- **Policy HS.I-58:** Encourage agricultural best management practices regarding herbicide and pesticide use, odor control, fugitive dust control, and agricultural equipment emissions to minimize air quality impacts.
- **Policy HS.I-59:** Require the implementation of best management practices to reduce air pollutant emissions associated with the construction of all development and infrastructure projects.

[4] According to BAAQMD, a "qualified greenhouse gas reduction strategy" should include the following: a baseline inventory of greenhouse gas emissions from all sources, greenhouse gas emissions reduction targets that are consistent with the goals of AB 32, and enforceable GHG emission reduction strategies and performance measures. It should also include enforcement and monitoring tools to ensure regular review of progress toward the emission reduction targets, report progress to the public and responsible agencies, and revise the plan as appropriate (BAAQMD, 2010b, p. 9-9).

- **Policy HS.I-60:** Require environmentally responsible government purchasing. Require or give preference to the purchase of products that reduce or eliminate indirect GHG emissions (e.g., giving preference to recycled products over products made from virgin materials).

#### 20.3.2.2 Yolo County General Plan

The Yolo County *2030 Countywide General Plan* was adopted on November 10, 2009 (Yolo County 2009). The general plan contains the following policies, along with a list of action items, for addressing GHG emissions and climate change (Yolo County 2009, pp. CO-91 – CO-94):

- **Policy CO-8.1:** Assess current GHG emission levels and adopt strategies based on scientific analysis to reduce global climate change impacts.
- **Policy CO-8.2:** Use the development review process to achieve measurable reductions in GHG emissions.
- **Policy CO-8.3:** Prepare appropriate strategies to adapt to climate change based on sound scientific understanding of the potential impacts.
- **Policy CO-8.4:** Encourage all businesses to take the following actions, where feasible: replace high mileage fleet vehicles with hybrid and/or alternative fuel vehicles; increase the energy efficiency of facilities; transition toward the use of renewable energy instead of non-renewable energy sources; adopt purchasing practices that promote emissions reductions and reusable materials; and increase recycling.
- **Policy CO-8.5:** Promote GHG emission reductions by supporting carbon efficient farming methods (e.g. methane capture systems, no-till farming, crop rotation, cover cropping); installation of renewable energy technologies; protection of grasslands, open space, oak woodlands, riparian forest and farmlands from conversion to other uses; and development of energy-efficient structures.
- **Policy CO-8.6:** Undertake an integrated and comprehensive approach to planning for climate change by collaborating with international, national, State, regional, and local organizations and entities.
- **Policy CO-8.7:** Integrate climate change planning and program implementation into County decision making.
- **Policy CO-8.8:** Increase public awareness about climate change and encourage county residents and businesses to become involved in activities and lifestyle changes that will aid in reduction of GHG emissions.
- **Policy CO-8.9:** Work with local, regional, State, and Federal jurisdictions, as well as private and non-profit organizations, to develop a regional GHG emissions inventory and emissions reduction plan.

### *20.3.3 Additional Technical Advisory Information*

#### 20.3.3.1 OPR Technical Advisory, CEQA and Climate Change

In June 2008, OPR published a technical advisory on CEQA and Climate Change to provide interim advice to lead agencies regarding the analysis of GHGs in environmental documents (OPR 2008 as cited in DWR 2010, p. 10). The advisory encourages lead agencies to identify and quantify the GHGs that could result from a proposed project, analyze the impacts of those emissions to determine whether they would be significant, and to identify feasible mitigation measures or alternatives that would reduce any

adverse impacts to a less-than-significant level. The advisory recognizes that OPR will develop, and the Natural Resources Agency will adopt amendments to the CEQA Guidelines pursuant to SB 97.

The advisory provides OPR's perspective on the emerging role of CEQA in addressing climate change and GHG emissions and recognizes that approaches and methodologies for calculating GHG emissions and determining their significance are rapidly evolving. OPR concludes in the technical advisory that climate change is ultimately a cumulative impact realizing that no individual project could have a significant impact on global climate. Thus, projects must be analyzed with respect to the incremental impact of the project when added to other past, present, and reasonably foreseeable probable future projects. In order to make a determination of cumulative significance, OPR recommends that lead agencies undertake an analysis, consistent with available guidance and current CEQA practice (OPR 2008 as cited in DWR 2010, pp. 10-11).

The technical advisory points out that neither CEQA nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. "This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable" (OPR 2008 as cited in DWR 2010, pp. 10-11). OPR recommends that "the global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions" (OPR 2008 as cited in DWR 2010, pp. 10-11). Until such a standard is established, OPR advises that each lead agency should develop its own approach to performing an analysis for projects that generate GHG emissions (OPR 2008 as cited in DWR 2010, pp. 10-11).

OPR sets out the following process for evaluating GHG emissions. First, agencies should determine whether GHG emissions may be generated by a proposed project, and if so, quantify or estimate the emissions by type or source. Calculation, modeling or estimation of GHG emissions should include the emissions associated with vehicular traffic, energy consumption, water usage and construction activities (OPR 2008 as cited in DWR 2010, pp. 10-11).

Agencies should then assess whether the emissions are "cumulatively considerable" even though a project's GHG emissions may be individually limited. OPR states: "Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment" (OPR 2008 as cited in DWR 2010, pp. 10-11). Individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice (OPR 2008 as cited in DWR 2010, pp. 10-11).

Finally, if the lead agency determines emissions are a cumulatively considerable contribution to a significant cumulative impact, the lead agency must investigate and implement ways to mitigate the emissions (OPR 2008 as cited in DWR 2010, pp. 10-11). OPR states: "Mitigation measures will vary with the type of project being contemplated, but may include alternative project designs or locations that conserve energy and water, measures that reduce vehicle miles traveled by fossil-fueled vehicles, measures that contribute to established regional or programmatic mitigation strategies, and measures that sequester carbon to offset the emissions from the project" (OPR 2008 as cited in DWR 2010, pp. 10-11). OPR concludes that "A lead agency is not responsible for wholly eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is "less than significant" (OPR 2008 as cited in DWR 2010, pp. 10-11). The technical advisory includes a list of GHG reduction measures in Attachment that can be applied on a project-by-project basis.

#### 20.3.3.2 California Air Pollution Control Officers Association

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" on evaluating and addressing GHGs under CEQA (CAPCOA 2008 as cited in DWR 2010, p. 11). This resource guide was prepared to support local governments as they develop their climate change programs and policies. Though not a guidance document, the paper provides information about key

elements of CEQA GHG analyses, including a survey of different approaches to setting quantitative significance thresholds.

In addition, a report titled *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures* was prepared by CAPCOA in 2010. The report focuses on the quantification of project-level mitigation of GHG emissions associated with land use, transportation, energy use, and other related project areas. Prepared at a time of legal and regulatory uncertainty, the report was prepared as a resource to local decision makers to enable them to make the best decisions they can. The report does not provide policy guidance or advocate any policy position related to GHG emission reductions (CAPCOA 2010, p. 1).

# 21.0 References

Note: references to the same publication may appear slightly differently in each section.

## 21.1 Water Resources

Beckon, W.N., M.C.S. Eacock, and A.G. Gordus. 2011. Biological Effects on the Grassland Bypass Project. Chapter 7, pages 105-172. In: *Grassland Bypass Project 2006-2007.* Prepared by the San Francisco Estuary Institute for the Grassland Bypass Project Oversight Committee.

CALFED Bay-Delta Program. 2000. Programmatic Record of Decision. August. Sacramento, CA.

Central Valley RWQCB (Central Valley Regional Water Quality Control Board). 2008. *Sacramento River-San Joaquin Delta Estuary TMDL for Methylmercury Staff Report.* Draft Report for Public Review. February.

Central Valley RWQCB (Central Valley Regional Water Quality Control Board). 2009. *Water Quality Control Plan for Sacramento River and San Joaquin River Basins*.

Central Valley RWQCB (Central Valley Regional Water Quality Control Board). 2010. Sacramento-San Joaquin Delta Estuary TMDL for Methylmercury. Staff report. April

Central Valley RWQCB (Central Valley Regional Water Quality Control Board). 2011. Resolution No. R5-2010-0079 Establishment of a Central Valley Drinking Water Policy for the Sacramento-San Joaquin Delta and Upstream Tributaries. Adopted on 29 July 2010.DPC (Delta Protection Commission). 2010. Land Use and Resource Management Plan for the Primary Zone of the Delta. Adopted February 1995 and updated November 2010.

DWR (California Department of Water Resources). 2011. *Local Management through Authority Granted to Local Water Agencies.* Site accessed October 4, 2011. http://www.water.ca.gov/groundwater/gwmanagement/local_agencies.cfm.

OEHHA (Office of Environmental Health Hazard Assessment) 2008. *Development of Fish Contaminant Goals and Advisory Tissue Levels for Common Contaminants in California Sport Fish: Chlordane, DDTs, Dieldrin, Methylmercury, PCBs, Selenium, and Toxaphene.* Oakland: California Environmental Protection Agency.

OEHHA (Office of Environmental Health Hazard Assessment). 2010. *Draft Public Health Goal for Selenium.* Prepared by the Pesticide and Environmental Toxicology Branch, Office of Environmental Health Hazard Assessment, California Environmental Protection Agency. July.

Reclamation (U.S. Bureau of Reclamation). 2005. Central Valley Project Improvement Act 10 Years of Progress. A Summary of Activities and Accomplishments in the Implementation of the Central Valley Project Improvement Act Title 34, Public Law 102-575 1993 – 2002. February

San Francisco Bay RWQCB (San Francisco Bay Regional Water Quality Control Board). 2007. *Region 2 Basin Plan*.

SWRCB (State Water Resources Control Board). 2006. *2006 Bay-Delta Water Quality Control Plan.*

SWRCB (State Water Resources Control Board). Board Meeting Session – Division of Water Quality. October 5, 2010. Item 5.

USEPA (U.S. Environmental Protection Agency). 1976. EPA 440/9-76-023. *Red Book.* July.

USEPA (U.S. Environmental Protection Agency). 1985. EPA 440/5-84-033. *Ambient Water Quality Criteria for Arsenic – 1984.* January.

USEPA (U.S. Environmental Protection Agency). 1986. EPA 440/5-86-001. *Gold Book Quality Criteria for Water.*

USEPA (U.S. Environmental Protection Agency). 1992. Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants; State's Compliance. Site accessed November 17, 2010. http://water.epa.gov/lawsregs/guidance/ntr.cfm.

USEPA (U.S. Environmental Protection Agency). 1995. EPA-80-B-95-004. *Great Lakes Water Quality Initiative Criteria Documents for the Protection of Aquatic Life in Ambient Water*. Office of Water. March.

USEPA (U.S. Environmental Protection Agency). 1996. EPA-820-B-96-001. *Water Quality Criteria Documents for the Protection of Aquatic Life in Ambient Water.* Office of Water. September.

USEPA (U.S. Environmental Protection Agency). 2000. 40 CFR Part 131 – Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule. Vol. 65, No. 97: 31685-31719.

USEPA (U.S. Environmental Protection Agency). 2004. Notice of Draft Aquatic Life Criteria for Selenium and Request for Scientific Information, Data, and Views. Federal Register Vol. 69, No. 242: 75541–75546.

USEPA (U.S. Environmental Protection Agency). 2008. Notice of Availability: The Toxicity of Selenium to Aquatic Life as Related to Developing a Recommended Aquatic Life Criterion. Federal Register Vol. 73, No. 208: 63706–63707.

USEPA (U.S. Environmental Protection Agency). 2009. National Recommended Water Quality Criteria. http://www.epa.gov/ost/criteria/wqctable/.

USEPA (U.S. Environmental Protection Agency). 2010a. National Recommended Water Quality Criteria. Site accessed November 17, 2010. http://water.epa.gov/scitech/swguidance/waterquality/standards/current/index.cfm.

USEPA (U.S. Environmental Protection Agency). 2010b. Information received February 16, 2010 via e-mail from Charles G. Delos, Environmental Scientist, Health and Ecological Criteria Division, Office of Science and Technology.

## 21.2 Biological Resources

Alameda County. 1994. *East County Area Plan*. Adopted May 1994. Modified by passage of Measure D, effective December 22, 2000. Oakland, CA.

BCDC (San Francisco Bay Conservation and Development Commission). 1968. *San Francisco Bay Plan.* San Francisco, CA. Site accessed February 6, 2011. http://www.bcdc.ca.gov/pdf/planning/plans/bayplan/bayplan.pdf.

BCDC (San Francisco Bay Conservation and Development Commission). 2007. *Suisun Marsh Protection Plan.* Approved December 1976. Last amended November 2007. San Francisco, CA.

CALFED (CALFED Bay-Delta Program). 2000. *Multi-Species Conservation Strategy. Programmatic EIS/EIR Technical Appendix*. Sacramento, CA. July 2000.

City of Antioch. 2003. *City of Antioch General Plan.* Antioch, CA. November 24.

City of Benicia. 1999. *City of Benicia General Plan.* Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Adopted June 8, 1993. Includes amendments through May 2009. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan.* Includes amendments through July 22, 2009. Site accessed January 2011. http://www.egplanning.org/gp_zoning/general_plan/.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California.* Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan*. Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA. Prepared by Pacific Municipal Consultants, Davis, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan.* Adopted November 16, 2001. Includes amendments through December 2004. Pittsburg, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA.

City of Sacramento. 2009. *City of Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report.* Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan.* Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. West Sacramento, CA.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020.* Adopted January 2005. Martinez, CA.

CVJV (Central Valley Joint Venture). 2006. *Central Valley Joint Venture Implementation Plan – Conserving Bird Habitat*. Sacramento, CA. U.S. Fish and Wildlife Service.

DFG (California Department of Fish and Game). 2008a. *California Aquatic Invasive Species Management Plan*. Sacramento, CA. January.

DFG (California Department of Fish and Game). 2008b. *Yolo Bypass Wildlife Area Land Management Plan for the California Department of Fish and Game*. Sacramento, CA. Prepared by EDAW, Sacramento, CA. June.

DFG (California Department of Fish and Game). 2011a. Special Animals. http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/SPAnimals.pdf.

DPC (Delta Protection Commission). 2010. *Land Use and Resource Management Plan for the Primary Zone of the Delta*. Initially adopted February 23, 1995. Update approved by California Office of Administrative Law October 7, 2010, effective November 6, 2010. Walnut Grove, CA.

East Contra Costa County Habitat Conservation Plan Association. 2006. *Final East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan*. Prepared by Jones & Stokes Associates, San Jose, CA. October.

PFMC (Pacific Fisheries Management Council). 2003. Pacific Coast Salmon Plan – Fishery Management Plan for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California as revised through Amendment 14 (Adopted March 1999). Pacific Fishery Management Council, Portland, Oregon. September.

PFMC (Pacific Fisheries Management Council). 2011. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery as Amended Through Amendment 23 Including Secretarial Amendment 1. September

Reclamation, USFWS, and DFG (U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service, California Department of Fish and Game). 2010. *Suisun Marsh Habitat Management, Preservation, and Restoration Plan* Draft EIS/EIR. October.

SAC BEE (The Sacramento Bee). 2011. U.S. Army Corps of Engineers Keeps Levee-tree Policy Despite Report, Hints at Flexibility. Published Friday, September 9, 2011.

Sacramento County. 1993. *Sacramento County General Plan.* Adopted December 15, 1993. Open Space Element. Includes revisions through June 24, 1998. Sacramento, CA.

San Joaquin Council of Governments. 2000. *San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP).* Stockton, CA. November 14.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Volume I. Resources Element. Stockton, CA.

Solano County. 2008a. *Solano County General Plan*. Fairfield, CA. December.

Solano County. 2008b. Suisun Marsh Policy Addendum of Appendix C of the *Solano County General Plan*. Fairfield, CA. Adopted December 2008.

Stockton, Steven L., Director of Civil Works, U.S. Army Corps of Engineers, Washington, DC. 2010. Letter to Benjamin F. Carter, President of the Central Valley Flood Protection Board. April 2.

USACE (U.S. Army Corps of Engineers). 2007. Treatment of Vegetation within Local Flood-Damage-Reduction Systems. Draft final white paper. Prepared by CECW-CE. April 20. Washington, D.C.

USACE (U.S. Army Corps of Engineers). 2009. Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures. Engineering Technical Letter No. 1110-2-571. April 10. Washington, D.C.

USACE (U.S. Army Corps of Engineers). 2011. Initial Research into the Effects of Woody Vegetation on Levees. Engineer Research and Development Center. July.

USFWS (U.S. Fish and Wildlife Service). 2009. North American Waterfowl Management Plan 2011/12 Plan Revision. Site accessed February 6, 2011. http://www.fws.gov/birdhabitat/nawmp/files/PlanRevisionCommunique-090209.pdf.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan*. Conservation and Open Space Element. Woodland, CA. November 10.

## 21.3 Delta Flood Risk

California Central Valley Flood Control Association. 2011. Comments on Flood Risk White Paper. January 20, 2011. http://www.deltacouncil.ca.gov/.

DWR (California Department of Water Resources). 1995. *Sacramento San Joaquin Delta Atlas*. Reprinted July 1995. Sacramento, CA.

DWR (California Department of Water Resources). 2008a. *Draft FloodSAFE Strategic Plan*. May 28.

DWR (California Department of Water Resources). 2008b. *State Plan of Flood Control Initial Status Report*.

DWR (California Department of Water Resources). 2009. Delta Levee Special Flood Control Projects Final Interim Guidelines for Providing Funding to Local Public Agencies FY 2008–2009. Delta Suisun Marsh Office.

DWR (Department of Water Resources). 2010. Implementing California Flood Legislation into Local Land Use Planning: A Handbook for Local Communities. October 2010.

DWR and DFG (California Department of Water Resources and California Department of Fish and Game). 2008. A Report Pursuant to Requirements of Assembly Bill 1200, Laird, Risks and Options to Reduce Risks to Fishery and Water Supply Uses of the Sacramento/San Joaquin Delta. January.

FEMA (Federal Emergency Management Agency). 2010. http://www.fema.gov/plan/prevent/fhm/mm_main.shtm.

Laird (as amended). 2005. DWR and DFG (California Department of Water Resources and California Department of Fish and Game). 2008. A Report Pursuant to Requirements of Assembly Bill 1200, Laird, Risks and Options to Reduce Risks to Fishery and Water Supply Uses of the Sacramento/San Joaquin Delta. January 2008.

SAFCA (Sacramento Area Flood Control Agency). 2009. The Sacramento Area Flood Control Agency. Site accessed June 22, 2009. http://www.safca.org/.

USACE (U.S. Army Corps of Engineers) 1987. “Guidelines for Rehabilitation of Non-Federal Levees in the Sacramento – San Joaquin Delta, CA.” CESPK-EM. September 3, 1987.

USACE (U.S. Army Corps of Engineers). 2005. U.S. Army Corps of Engineers Sacramento District History (1929–2004).

USACE (U.S. Army Corps of Engineers). 2006. *Long Term Management Strategy for Delta Sediments*. April.

USACE (U.S. Army Corps of Engineers). 2008. Lower San Joaquin River Feasibility Study Project Management Plan.

USACE (U.S. Army Corps of Engineers). 2010. Suisun Channel Operations and Maintenance Fact Sheet and Map. Site accessed May 14, 2010. http://www.spn.usace.army.mil/projects/suisunchannelo&m.html.

## 21.4 Land Use and Planning

BCDC (San Francisco Bay Conservation and Development Commission). 2007. *Suisun Marsh Protection Plan*. Site accessed May 11, 2010. http://www.bcdc.ca.gov/pdf/planning/plans/suisun_marsh_plan.pdf.

Department of Housing and Community Development. 2011. Department website regarding Regional Housing Needs Allocation. Site accessed July 8, 2011. http://www.hcd.ca.gov/hpd/housing_element2/HN_PHN_regional.php.

DPC (Delta Protection Commission). 2010. *Land Use and Resource Management Plan for the Primary Zone of the Delta*. Initially adopted February 23, 1995. Update approved by California Office of Administrative Law October 7, 2010, effective November 6, 2010. Walnut Grove, CA.

Reclamation (U.S. Bureau of Reclamation). 2005. 10 Years of Progress: A Summary of Activities and Accomplishments in the Implementation of the Central Valley Project Improvement Act. Sacramento, CA. February.

USFWS (U.S. Fish and Wildlife Service). 2007. *Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan*. Sacramento, CA.

## 21.5 Agriculture and Forestry Resources

Alameda County. 1994. *East County Area Plan*. Adopted May 1994. Modified by passage of Measure D, effective December 22, 2000. Oakland, CA.

BLM (U.S. Bureau of Land Management). 2008. *Sierra Resource Management Plan and Record of Decision*. February.

California Resources Agency and UCD (California Resources Agency and University of California, Davis). 2004. Statewide General Plan Land Use Designation GIS layer (genplans.shp). April. Site accessed May 25, 2004. http://www.atlas.ca.gov/download.html#/casil/planning/planningAndDevelopment.

City of Benicia. 1999. *City of Benicia General Plan.* Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated November 27, 2001. Includes amendments through May 2009. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan*. Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Isleton. 1999. *Comprehensive General Plan and Environmental Impact Report for the City of Isleton.* Resource Management Element. Adopted September 1999. Isleton, CA. Prepared by Grunwald & Associates, Sacramento, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California*. Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document.* Adopted October 6, 2003. Manteca, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan*. Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA. Includes amendments through January 26, 2010. Rio Vista, CA.

City of Sacramento. 2009. *City of Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report.* Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan*. Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. West Sacramento, CA.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

Cosumnes River Preserve. 2008. *Final Cosumnes River Preserve Management Plan*. March. Galt, CA. Prepared by Kleinschmidt Associates, Grass Valley, CA.

DPC (Delta Protection Commission). 2010. *Land Use and Resource Management Plan for the Primary Zone of the Delta*. Initially adopted February 23, 1995. Update approved by California Office of Administrative Law October 7, 2010, effective November 6, 2010. Walnut Grove, CA.

NRCS (U.S. Natural Resources Conservation Service). 2009a. Farmland Protection Program. Washington, D.C. Site accessed March 3, 2011. http://www.nrcs.usda.gov/programs/fppa.

NRCS (U.S. Natural Resources Conservation Service). 2009b. LESA System Design and Uses. Washington, D.C. Site accessed March 3, 2011. http://www.nrcs.usda.gov/programs/lesa/lesa_sysdes_uses.html.

Sacramento County. 1993a. *Sacramento County General Plan*. Adopted December 15, 1993. Conservation Element. Includes revisions through June 24, 1998. Sacramento, CA.

Sacramento County. 1993b. *Sacramento County General Plan*. Adopted December 15, 1993. Agricultural Element. Includes revisions through June 24, 1998. Sacramento, CA.

Sacramento County. 1993c. *Sacramento County General Plan.* Adopted December 15, 1993. Open Space Element. Includes revisions through June 24, 1998. Sacramento, CA.

Sacramento County. 2011. *Sacramento County General Plan Update* Website. Site accessed February 4, 2011. http://www.msa2.saccounty.net/planning/Pages/GeneralPlanUpdate.aspx.

San Joaquin County 1992. *San Joaquin County Wide General Plan 2010.* Adopted July 29, 1992. Stockton, CA.

San Joaquin County. 2008. *San Joaquin County General Plan Update, Overview.* Site accessed on March 4, 2011. http:www.sjcgpu.com/overview.html#time.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan.* Woodland, CA. November 10.

Yolo Bypass Planning Forum. 2010. Preliminary Draft Lower Yolo Bypass Planning Forum Management Recommendation Planning Goals, June 10 [2010] v.3. Site accessed March 3, 2011. http://www.yolobypass.net/index.php.

## 21.6 Visual Resources

Alameda County. 1994. *East County Area Plan*. Revised by Initiative November 2000. Site accessed December 2010. http://www.acgov.org/cda/planning/generalplans/documents/ EastCountyAreaPlancombined.pdf.

BCDC (San Francisco Bay Conservation and Development Commission). 1976. *Suisun Marsh Protection Plan*. Site accessed January 2011. http://www.bcdc.ca.gov/laws_plans/plans/suisun_marsh.shtml.

BLM (U.S. Bureau of Land Management). 2008. *Sierra Resource Management Plan and Record of* Decision. February. Site accessed December 2010. http://www.blm.gov/pgdata/etc/medialib/blm/ ca/pdf/folsom/rmp.Par.86036.File.dat/Sierra_ROD_Final_web.pdf.

City of Antioch. 2003. *City of Antioch General Plan.* November 24. Site accessed December 2010. http://www.ci.antioch.ca.us/ CityGov/CommDev/PlanningDivision/docs/ Antioch_Adopted_General_Plan.pdf.

City of Benicia. 1999. *City of Benicia General Plan.* Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated to reflect amendments through May 2009. Site accessed December 2010. http://www.ci.brentwood.ca.us/pdf/new/comdev/ general_plan.pdf.

City of Elk Grove. 2003. *City of Elk Grove General Plan*. Includes amendments through July 22, 2009. Site accessed January 2011. http://www.egplanning.org/gp_zoning/general_plan/.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Isleton. 1999. *Comprehensive General Plan and Environmental Impact Report for the City of Isleton*. Adopted September 1999. Isleton, CA. Prepared by Grunwald & Associates, Sacramento, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California*. Adopted December 17, 1991. Includes amendments through November 9, 2004. Site accessed December 2010. http://www.ci.lathrop.ca.us/pdf/cdd/doc_general-plan.pdf.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document.* Adopted October 6, 2003. Manteca, CA. Site accessed May 9, 2011. http://www.ci.manteca.ca.us/communitydevelopment/ PlanningDivision.html.

City of Oakley. 2002. *Oakley 2020 General Plan*. http://www.ci.oakley.ca.us/ subpage.cfm?id=572363. Accessed December 2010.

City of Pittsburg. 2001. *Pittsburg 2020: A Vision for the 21st Century. City of Pittsburg General Plan.* Site accessed January 2011. http://www.ci.pittsburg.ca.us/index.aspx?page=228.

City of Rio Vista. 2002. *Rio Vista General Plan 2001* Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA. http://www.rio-vista-ca.com/general-plan. Site accessed December 2010.

City of Sacramento. 2009. *City of Sacramento 2030 General Plan*. Site accessed May 9, 2011. http://www.sacgp.org/.

City of Stockton. 2007. *Stockton General Plan*. Site accessed December 2010. http://www.stocktongov.com/cd/2035GeneralPlan/index.cfm.

City of Suisun City. 1992. *City of Suisun City General Plan*. Site accessed December 2010. http://www.suisun.com/ CommunityDev/Documents/CommDev_Docs.html#GP.

City of Tracy. 2011. *City of Tracy General Plan*. Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. Site accessed December 2010. http://cityofwestsacramento.org/mintierharnish/pdf/ WSGPU_Policy_Doc.pdf.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA. http://www.co.contra-costa.ca.us/depart/cd/current/advance/GeneralPlan/CCCGeneralPlan.pdf. Site accessed December 2010.

Cosumnes River Preserve. 2008. *Cosumnes River Preserve Management Plan*. Final. Prepared by Kleinschmidt Associates. March. Site accessed December 2010. http://www.cosumnes.org/about_crp/managementplan.htm.

EBRPD (East Bay Regional Parks District). 1997. *Master Plan 1997*. Site accessed December 2010. http://www.ebparks.org/files/ RPM_Plan97.pdf.

EBRPD (East Bay Regional Parks District). 2010. *Master Plan Update*. March 30. Site accessed December 2010. http://www.ebparks.org/masterplan.

Sacramento County. 1993. *Sacramento County General Plan*. Scenic Highways Element. Site accessed December 2010. http://www.msa2.saccounty.net/planning/Documents/General-Plan/ScenicHighwaysElement.pdf.

San Joaquin County. 1992. *San Joaquin County Wide General Plan*. Site accessed December 2010. http://www.sjgov.org/ commdev/cgi-bin/cdyn.exe?grp=planning&htm=generalplan.

Solano County. 2008. *Solano County General Plan*. Site accessed December 2010. http://solanocountygeneralplan.net/.

State Parks (California Department of Parks and Recreation). 1988. *General Plan for Brannan Island and Franks Tract State Recreation Areas*. February. Prepared by Center for Design Research, University of California, Davis, and EDAW. Site accessed December 2011. http://www.parks.ca.gov/pages/21299/files/314.pdf.

Yolo County. 2009. *Yolo County General Plan*. Site accessed May 10, 2011. http://www.yolocounty.org/Index.aspx?page=1965.

# 21.7 Air Quality

Alameda County. 1994. *East County Area Plan*. Oakland, CA. Site accessed January 26, 2011. http://www.acgov.org/cda/planning/generalplans/index.htm.

ARB (California Air Resources Board). 2009a. State Implementation Plan Background. April 13. Sacramento, CA. Site accessed January 25, 2011. http://www.arb.ca.gov/planning/sip/background.htm.

ARB (California Air Resources Board). 2009b. California Regional Haze Plan adopted January 22, 2009. September 23. Sacramento, CA. Site accessed January 24, 2011. http://www.arb.ca.gov/planning/reghaze/reghaze.htm.

ARB (California Air Resources Board). 2009c. Area Designations Maps/State and National. December. Sacramento, CA. Site accessed February 7, 2011. http://www.arb.ca.gov/desig/adm/adm.htm.

ARB (California Air Resources Board). 2010a. California Ambient Air Quality Standards (CAAQS). September 8, 2010. Sacramento, CA. Site accessed January 24, 2011. http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm.

ARB (California Air Resources Board). 2010bc. Introduction to the Air Resources Board. August 2. Sacramento, CA. Site accessed January 25, 2011. http://www.arb.ca.gov/html/brochure.arb.htm.

ARB (California Air Resources Board). 2010c. California State Implementation Plans. December 13. Sacramento, CA. Site accessed January 24, 2011. http://www.arb.ca.gov/planning/sip/sip.htm.

ARB (California Air Resources Board). 2010d. California Air Toxics Program. August 4. Sacramento, CA. Site accessed January 24, 2011. http://www.arb.ca.gov/toxics/toxics.htm.

ARB (California Air Resources Board). 2010e. Mobile Sources Program Portal. April 15. Site accessed January 24, 2011. http://www.arb.ca.gov/msprog/msprog.htm.

ARB (California Air Resources Board). 2010f. Yolo-Solano AQMD List of Current Rules. November 17. Sacramento, CA. Site accessed January 26, 2011. http://www.arb.ca.gov/ drdb/ys/cur.htm.

BAAQMD (Bay Area Air Quality Management District). 2010a. Rules and Regulations. October 4. San Francisco, CA. Site accessed January 26, 2011. http://www.baaqmd.gov/Divisions/Planning-and-Research/Rules-and-Regulations.aspx.

BAAQMD (Bay Area Air Quality Management District). 2010b. 2010 Clean Air Plan. October 4. San Francisco, CA. Site accessed January 26, 2011. http://www.baaqmd.gov/Divisions/ Planning-and-Research/Plans/Clean-Air-Plans.aspx.

BAAQMD (Bay Area Air Quality Management District). 2010c. Air Quality Plans, Particulate Matter (PM) Planning. October 4. San Francisco, CA. Site accessed January 26, 2011. http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans.aspx.

BAAQMD (Bay Area Air Quality Management District). 2010d. California Environmental Quality Act Air Quality Guidelines. December 2010. San Francisco, CA. Site accessed February 8, 2011. http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES.aspx.

Contra Costa County. 2005. *Contra Costa County General Plan 2005-2020.* Adopted January 2005. Martinez, CA. Site accessed January 25, 2011. http://www.co.contra-costa.ca.us/depart/cd/current/advance/GeneralPlan.htm.

Sacramento County. 2009. Sacramento County Draft General Plan Air Quality Element. Sacramento, CA. April 13. Site accessed January 25, 2011. http://www.msa2.saccounty.net/ planning/Documents/ General-Plan-Update/ Air0QualityElement.pdf.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. July. Stockton, California. Site accessed January 25, 2011, and January 26, 2011. http://www.sjgov.org/commdev/cgi-bin/cdyn.exe/handouts-planning_GP-V1-VI?grp=handouts-planning&obj=GP-V1-VI.

San Joaquin County. 2008. General Plan Update. June 29. Stockton, CA. Site accessed January 25, 2011. http://www.sjcgpu.com/

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2002. Guide for Assessing and Mitigating Air Quality Impacts. Fresno, CA. January 10.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2004a. Rule 8021 Construction, Demolition, Excavation, Extraction, and Other Earthmoving Activities. Fresno, CA. August 19. Site accessed January 26, 2011. http://www.valleyair.org/ rules/currntrules/r8021.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2004b. Rule 8031 Bulk Materials. Fresno, CA. August 19. Site accessed January 26, 2011. http://www.valleyair.org/ rules/currntrules/ r8031.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2004c. Rule 8051 Open Areas. Fresno, CA. August 19. Site accessed January 26, 2011. http://www.valleyair.org/rules/ currntrules/ r8051.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2004d. Rule 8061 Paved and Unpaved Roads. Fresno, CA. August 19. Site accessed January 26, 2011. http://www.valleyair.org/ rules/currntrules/r8061.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2004e. Rule 8071 Unpaved Vehicle/Equipment Traffic Areas. Fresno, CA. August 19. Site accessed January 26, 2011. http://www.valleyair.org/rules/currntrules/r8071.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2005. Air Quality Guidelines for General Plans. Fresno, CA. June. Site accessed January 26, 2011. http://www.valleyair.org/ transportation/Entire-AQGGP.pdf.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2007. 2007 Ozone Plan. Fresno, CA. April. Site accessed January 26, 2011. http://www.valleyair.org/ Air_Quality_Plans/ AQ_Final_Adopted_Ozone2007.htm.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2008a. Particulate Matter Plans, PM10 Plans Under Development. Fresno, CA. June. Site accessed January 25, 2011. http://www.valleyair.org/Air_Quality_Plans/PM_Plans.htm.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2008b. Final 2008 PM 2.5 Plan. Fresno, CA. April 30. Site accessed February 8, 2011. http://www.valleyair.org/ Air_Quality_Plans/ AQ_Final_Adopted_PM25_2008.htm.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2010a. Current District Rules and Regulations. Fresno, CA. Site accessed January 26, 2011. http://www.valleyair.org/ rules/1ruleslist.htm.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2010b. CEQA Guidance Documents. Fresno, CA. Site accessed January 26, 2011. http://www.valleyair.org/ transportation/ceqa_guidance_documents.htm.

SJVAPCD (San Joaquin Valley Air Pollution Control District). 2010c. Ozone Plans, 8-Hour Ozone Plan. Fresno, CA. Site accessed January 26, 2011. http://www.valleyair.org/ Air_Quality_Plans/Ozone_Plans.htm#8-hour%20Ozone.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 1977. Rule 403 Fugitive Dust. Sacramento, CA. August 3. Site accessed January 26, 2011. http://www.airquality.org/ rules/rule403.pdf.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2008. 2009 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan. Sacramento, CA. December 19. Site accessed January 26, 2011. http://airquality.org/plans/ federal/ozone/ 8hr1997/2009AandRFP/.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2009a. 2009 Triennial Report and Plan Revision. Sacramento, CA. Site accessed February 7, 2011. http://www.airquality.org/ plans/state/ozone/triennial/index.shtml.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2009b. Sacramento Metropolitan Air Quality Management District CEQA Guide December 2009. Sacramento, CA. December. Site accessed January 26 and 27, 2011. http://www.airquality.org/ ceqa/cequguideupdate/Ch1IntroAQFINAL.pdf.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2010a. PM10 Implementation/Maintenance Plan and Redesignation Request for Sacramento County. Sacramento, CA. October 28. Site accessed January 26, 2011. http://www.airquality.org/ plans/federal/pm/pm10/index.shtml.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2010b. Particulate Matter (PM2.5) and Planning. Sacramento, CA. November 8. Site accessed January 26, 2011. http://www.airquality.org/plans/federal/pm/PM2.5/index.shtml.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2010c. 2009 Annual Progress Report. Sacramento, CA. September. Site accessed February 7, 2011. http://www.airquality.org/ plans/state/ozone/annualreports/index.shtml.

SMAQMD (Sacramento Metropolitan Air Quality Management District). 2011. Rules and Regulations. Sacramento, CA. January 28. Site accessed January 28, 2011. http://www.airquality.org/ rules/index.shtml.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. Site accessed January 25, 2011. http://solanocountygeneralplan.net/.

USEPA (U.S. Environmental Protection Agency). 2010. The Green Book Nonattainment Areas for oaqps001/greenbk/.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan*. Woodland, CA. November 10. Site accessed January 25, 2011. http://www.yolocounty.org/ index.aspx?page=1514.

YSAQMD (Yolo-Solano Air Quality Management District). 2007. Handbook for Assessing and Mitigating Air Quality Impacts. Davis, CA. July 11. Site accessed January 25, 2011. http://www.ysaqmd.org/documents/CEQAHandbook2007.pdf.

YSAQMD (Yolo-Solano Air Quality Management District). 2009. 2006 24-Hour PM 2.5 Standard. Davis, CA. December. Site accessed January 25, 2011. http://www.ysaqmd.org/200624hourPMstandard.php.

YSAQMD (Yolo-Solano Air Quality Management District). 2010. Triennial Assessment and Plan Update. Davis, CA. May. Site accessed February 8, 2011. http://www.ysaqmd.org/state_plans.php.

## 21.8 Cultural Resources

Alameda County. 1994. *East County Area Plan*. Adopted May 1994. Modified by passage of Measure D, effective December 22, 2000. Oakland, CA.

City of Antioch. 2003. *City of Antioch General Plan.* Antioch, CA. November 24.

City of Benicia. 1999. *City of Benicia General Plan*. Benicia, CA. June 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated November 27, 2001. Includes amendments through May 2009. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan.* Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California.* Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document.* Adopted October 6, 2003. Manteca, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan*. Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan.* Updated December 2004. Pittsburg, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA.

City of Sacramento. 2009. *City of Sacramento 2030 General Plan.* Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report.* Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan*. Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. West Sacramento, CA.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

Office of Historic Preservation. 2002. *California Register of Historical Resources: Questions and Answers*. Technical Assistance Series #3. Sacramento, CA.

Sacramento County. 1993. *Sacramento County General Plan.* Adopted December 15, 1993. Conservation Element. Includes revisions through June 24, 1998. Sacramento, CA.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Volume I. Stockton, CA.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan.* Woodland, CA. November 10.

## 21.9 Geology

Bryant, W. A. and E. W. Hart. 2007. Fault-rupture Hazard Zones in California Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zones Maps (Interim Revision). Special Publication 42. California Geological Survey.

Laird (as amended). 2005. DWR and DFG (California Department of Water Resources and California Department of Fish and Game). 2008. A Report Pursuant to Requirements of Assembly Bill 1200, Laird, Risks and Options to Reduce Risks to Fishery and Water Supply Uses of the Sacramento/San Joaquin Delta. January 2008.

USGS (U.S. Geological Survey). 2009. United States National Seismic Hazard Maps. Site accessed March 13, 2009. http://earthquake.usgs.gov/research/hazmaps.

## 21.10 Soils

City of Antioch. 2003. *City of Antioch General Plan*. Antioch, CA. November 24.

City of Elk Grove. 2003. *City of Elk Grove General Plan*. Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA. pp. 47.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document*. Adopted October 6, 2003. Manteca, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan.* Adopted November 16, 2001. Includes amendments through December 2004. Pittsburg, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA. pp. 10-38.

City of Sacramento. 2009. *City of Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA. Site accessed May 9, 2011. http://www.sacgp.org/.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan*. Adopted February 1, 2011. Tracy, CA. pp. 8-12.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

Sacramento County. 1993. *Sacramento County General Plan.* Adopted December 15, 1993. Conservation Element. Includes revisions through June 24, 1998. Sacramento, CA.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

## 21.11 Mineral Resources

City of Benicia. 1999. *City of Benicia General Plan*. Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated November 27, 2001. Includes amendments through May 2009. Brentwood, CA.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Tracy. 2011. *City of Tracy General Plan.* Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 2009. *City of West Sacramento General Plan Public Review Draft Background Report*. West Sacramento, CA. September.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

Sacramento County. 1993. *Sacramento County General Plan.* Adopted December 15, 1993. Includes revisions through June 24, 1998. Sacramento, CA.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Stockton, CA.

SMGB (State Mining and Geology Board). 2009. Guidelines for Classification and Designation of Mineral Lands. California Department of Conservation. Special Publication 51. Site accessed March 2009. http://www.consrv.ca.gov/smgb/Guidelines/Documents/ClassDesig.pdf.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan.* Conservation and Open Space Element. Woodland, CA. November 10.

## 21.12 Hazards and Hazardous Materials

Cal/EPA (California Environmental Protection Agency). 2009. *Cal/EPA Environmental Enforcement Report 2009*. Unified Program. Site accessed February 6, 2011. www.calepa.ca.gov/Enforcement/Publications/2009/AirDistricts.pdf.

## 21.13 Noise

City of Antioch. 2003. *City of Antioch General Plan.* Antioch, CA. November 24.

City of Benicia. 1999. *City of Benicia General Plan*. Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated November 27, 2001. Includes amendments through May 2009. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan.* Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA.

City of Fairfield. 2002. *City of Fairfield General Plan.* Health and Safety Element. Updated February 2004. Fairfield, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California.* Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document*. Adopted October 6, 2003. Manteca, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan*. Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan.* Adopted November 16, 2001. Includes amendments through December 2004. Pittsburg, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA.

City of Sacramento. 2009. *Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report*. Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2006. *City of Tracy General Plan*. Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 2011. Codified City of West Sacramento Ordinances. Site accessed January 17. http://www.qcode.us/codes/westsacramento.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

FTA (Federal Transit Administration). 2006. *Transit Noise and Vibration Impact Assessment*. Washington, D.C. May.

OPR (Governor's Office of Planning and Research). 2003. *State of California General Plan Guidelines*. Sacramento, CA.

Sacramento County. 1993. *Sacramento County General Plan.* Adopted December 15, 1993. Noise Element. Includes revisions through June 24, 1998. Sacramento, CA.

Sacramento County. 2009. *Sacramento County Draft General Plan*. Noise Element. Sacramento, CA. April 13.

Sacramento County. 2011. Sacramento County Code Chapter 6.68, Noise Control. Site accessed March 15, 2011. http://qcode.us/codes/sacramentocounty/view.php?topic=6-6_68&showAll=1&frames=on.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Stockton, CA.

Solano County. 2008. *Solano County General Plan*. Public Health and Safety Element. Fairfield, CA. December.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan*. Woodland, CA. November 10.

## 21.14 Population and Housing

California Department of Housing and Community Development. 2011. "Regional Housing Needs Allocation." Site accessed August 11, 2001. http://www.hcd.ca.gov/hpd/housing_element2/HN_home.php.

# 21.15 Public Services

Alameda County. 1994. *East County Area Plan*. Adopted May 1994. Modified by passage of Measure D, effective December 22, 2000. Oakland, CA.

City of Antioch. 2003. *City of Antioch General Plan*. Antioch, CA. November 24.

City of Benicia. 1999. *City of Benicia General Plan*. Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated November 27, 2001. Includes amendments through May 2009. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan*. Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA.

City of Fairfield. 2002. *City of Fairfield General Plan*. Updated February 2004. Fairfield, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California*. Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document*. Adopted October 6, 2003. Manteca, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan*. Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan*. Adopted November 16, 2001. Includes amendments through December 2004. Pittsburg, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA.

City of Sacramento. 2009. *Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report*. Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan*. Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. West Sacramento, CA.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

FERC (Federal Energy Regulatory Commission). 2011. Site accessed January 18, 2011. http://www.ferc.gov/ about/ferc-does.asp.

Sacramento County. 1993. *Sacramento County General Plan*. Adopted December 15, 1993. Includes revisions through June 24, 1998. Sacramento, CA.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Stockton, CA.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.Yolo County. 2009. *Yolo County 2030 Countywide General Plan Environmental Impact Report*. Public Review Draft. April.

## 21.16 Recreation

City of Antioch. 2003. *City of Antioch General Plan.* Antioch, CA. November 24.City of Benicia. 1999. *City of Benicia General Plan*. Benicia, CA. July 15.

City of Brentwood. 2002. *City of Brentwood Parks, Trails and Recreation Master Plan*. June. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan.* Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA.

City of Fairfield. 2002. *City of Fairfield General Plan.* Adopted June 2002. Fairfield, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California.* Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Lathrop. 2002. *2003 West Lathrop Specific Plan*. October 1, 2002. Lathrop, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document.* Adopted October 6, 2003. Manteca, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan.* Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA.City of Oakley. 2006. *Parks, Trails, and Recreation Master Plan 2020*. Final Report. Oakley, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan.* Adopted November 16, 2001. Includes amendments through December 2004. Pittsburg, CA.

City of Rio Vista. 2002a. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA.

City of Rio Vista. 2002b. *City of Rio Vista General Plan.* Resource Conservation and Management Element. Adopted July 18, 2002. Rio Vista, CA.

City of Rio Vista. 2007. Parks Master Plan. Adopted February. Rio Vista, CA.

City of Sacramento. 2009. *Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report*. Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan.* Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. Available: http://cityofwestsacramento.org/ mintierharnish/pdf/WSGPU_Policy_Doc.pdf.

Contra Costa County. 2005. *Contra Costa County General Plan 2005-2020*. Open Space Element. Adopted January 2005. Martinez, CA.

DBW (California Department of Boating and Waterways). 2011a. About Us. Site accessed March 7, 2011. http://www.dbw.ca.gov/AboutUs.aspx.

DBW (California Department of Boating and Waterways). 2011b. About Us: A Brief History. Site accessed March 7, 2011. http://www.dbw.ca.gov/History.aspx.

DBW (California Department of Boating and Waterways). 2011c. Boating Law Enforcement. Site accessed March 7, 2011. http://www.dbw.ca.gov/LawEnforce/.

DBW (California Department of Boating and Waterways). 2011d. Aquatic Pest Control. Site accessed March 7, 2011. http://www.dbw.ca.gov/Environmental/Aquatic.aspx.

DPC (Delta Protection Commission). 2006. Preliminary Findings for the Aquatic Recreation Component of the *Delta Recreation Strategy Plan*. Prepared by The Dangermond Group and LSA Associates, Inc. March 28.

Sacramento County. 2009a. *Sacramento County Draft General Plan*. Delta Protection Element.Sacramento, CA. April 13.

Sacramento County. 2009b. *Sacramento County Draft General Plan*. Open Space Element. Sacramento, CA. April 13.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Stockton, CA.

SLC (State Lands Commission). 2011. About the State Lands Commission. Site accessed January 14, 2011. http://www.slc.ca.gov/About_The_CSLC/About_The_CSLC_Home_Page.html.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan*. Woodland, CA. November 10.

## 21.17 Transportation, Traffic, and Circulation

Caltrans (California Department of Transportation). 2001. Emergency Relief Guide. March. Site accessed January 21, 2011. http://www.dot.ca.gov/hq/LocalPrograms/ergb.htm.

Caltrans (California Department of Transportation). 2011. What Are STAA Trucks? Site accessed January 12, 2011. http://www.dot.ca.gov/dist1/d1projects/staa.htm.

FAA (Federal Aviation Administration). 2010. Advisory Circular No: AC 150/5200-31C. Subject: Emergency Response Plan. May 1. Site accessed January 21, 2011. http://www.faa.gov/documentLibrary/media/150_5200_31c_chg1.pdf.

FHWA (Federal Highway Administration). 2005. A Summary of Highway Provisions in SAFETEA-LU. August 25. Site accessed January 10, 2011. http://www.fhwa.dot.gov/safetealu/summary.htm.

FHWA (Federal Highway Administration). 2008. FHWA – Who We Are & What We Do. November 6. Site accessed January 10, 2011. http://www.fhwa.dot.gov/whoweare/whatwedo.htm.

FHWA (Federal Highway Administration). 2011. A Summary of Highway Provisions in SAFETEA-LU. Federal Highway Administration Office of Legislation and Intergovernmental Affairs. Program Analysis Team. August 25, 2005. Site Accessed January 10, 2011. http://www.fhwa.dot.gov/safetealu/summary.htm

MTC (Metropolitan Transportation Commission). 2009. *Transportation 2035 Plan for the San Francisco Bay Area*. Final. April. Site accessed January 13, 2011. http://www.mtc.ca.gov/ planning/2035_plan/ FINAL/T2035_Plan-Final.pdf.

MTC (Metropolitan Transportation Commission). 2011. About the Metropolitan Transportation Commission. January 4. Site accessed January 4, 2011. http://www.mtc.ca.gov/about_mtc/ about.htm.

SACOG (Sacramento Area Council of Governments). 2008. *Metropolitan Transportation Plan 2035*. March 20. Site accessed January 13, 2011. http://www.sacog.org/mtp/2035/final-mtp/.

SACOG (Sacramento Area Council of Governments). 2011. About SACOG. Site accessed January 4, 2011. http://www.sacog.org/about/.

SJCOG (San Joaquin Council of Governments). 2011. About SJCOG. Site accessed January 4, 2011. http://www.sjcog.org/ about-sjcog/default.htm.

USCG (U.S. Coast Guard). 2010. Coast Guard 2010 Snapshot. May 25. Site accessed March 1, 2011. http://www.uscg.mil/ top/about/doc/uscg_snapshot.pdf.

USFWS (U.S. Fish and Wildlife Service). 2011. Digest of Federal Resource Laws of Interest to the U.S. Fish and Wildlife Service. Rivers and Harbors Appropriation Act of 1899. Site accessed January 12, 2011. http:// www.fws.gov/laws/lawsdigest/RIV1899.HTML.

## 21.18 Utilities and Service Systems

Alameda County. 1994. *East County Area Plan*. Adopted May 1994. Modified by passage of Measure D, effective December 22, 2000. Oakland, CA.

City of Antioch. 2003. *City of Antioch General Plan*. Antioch, CA. November 24.

City of Benicia. 1999. *City of Benicia General Plan*. Benicia, CA. July 15.

City of Brentwood. 1993. *City of Brentwood General Plan*. Updated November 27, 2001. Includes amendments through May 2009. Brentwood, CA.

City of Elk Grove. 2003. *City of Elk Grove General Plan*. Adopted November 19, 2003. Includes amendments through July 22, 2009. Elk Grove, CA.

City of Fairfield. 2002. *City of Fairfield General Plan*. Updated February 2004. Fairfield, CA.

City of Lathrop. 1991. *Comprehensive General Plan for the City of Lathrop, California*. Adopted December 17, 1991. Includes amendments through November 9, 2004. Lathrop, CA.

City of Manteca. 2003. *City of Manteca General Plan 2023, Policy Document*. Adopted October 6, 2003. Manteca, CA.

City of Oakley. 2002. *City of Oakley 2020 General Plan*. Adopted December 16, 2002. Includes amendments through January 26, 2010. Oakley, CA.

City of Pittsburg. 2001. *City of Pittsburg General Plan*. Adopted November 16, 2001. Includes amendments through December 2004. Pittsburg, CA.

City of Rio Vista. 2002. *City of Rio Vista General Plan 2001*. Adopted July 18, 2002, City Council Resolution No. 02-62. Prepared by City of Rio Vista Community Development Department, Rio Vista, CA.

City of Sacramento. 2009. *Sacramento 2030 General Plan*. Adopted March 3, 2009. Sacramento, CA.

City of Stockton. 2007. *Stockton General Plan 2035 Goals and Policies Report*. Adopted December 2007. Stockton, CA.

City of Suisun City. 1992. *City of Suisun City General Plan*. Adopted May 1992. Suisun City, CA.

City of Tracy. 2011. *City of Tracy General Plan.* Adopted February 1, 2011. Tracy, CA.

City of West Sacramento. 1990. *City of West Sacramento General Plan Policy Document*. Revised through December 8, 2004. West Sacramento, CA.

Contra Costa County. 2005. *Contra Costa County General Plan 2005–2020*. Adopted January 2005. Martinez, CA.

Sacramento County. 1993. *Sacramento County General Plan.* Adopted December 15, 1993. Includes revisions through June 24, 1998. Sacramento, CA.

San Joaquin County. 1992. *San Joaquin County Wide General Plan 2010*. Adopted July 29, 1992. Stockton, CA.

Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

Yolo County. 2009. *Yolo County 2030 Countywide General Plan Environmental Impact Report*. Public Review Draft. April.

## 21.19 Paleontological Resources

Alameda County. 1994. *East County Area Plan.* Adopted May 1994. Modified by passage of Measure D, effective December 22, 2000. Oakland, CA.

Solano County. 2006. *Cultural and Paleontological Resources Background Report, Solano County General Plan Update.* Fairfield, CA: Resource Management Department.

Solano County. 2008. *Environmental Impact Report, Solano County 2008 Draft General Plan.* Section 4.10, Cultural and Paleontological Resources. July.

## 21.20 Climate Change and Greenhouse Gas Emissions

ARB (California Air Resources Board). 2011. Cap-and-Trade. January 26. Sacramento, California. Site accessed February 7, 2011. http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm

BAAQMD (Bay Area Air Quality Management District). 2010. California Environmental Quality Act Air Quality Guidelines. San Francisco, California. June 2010, Updated December 30.

CAPCOA. (California Air Pollution Control Officers Association). 2010. Quantifying Greenhouse Gas Mitigation Measures. A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures. Sacramento, California. August.

CEQ (Council on Environmental Quality). 2010. Memorandum for Heads of Federal Departments and Agencies. From Nancy H. Sutley, Chair, Council on Environmental Quality. Subject: Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions. Washington, D.C. February 18.

DWR (Department of Water Resources). 2010. Model CEQA Climate Change Discussion and Impact Analysis Section. California Department of Water Resources Internal Guidance Document. CEQA Climate Change Committee. Sacramento, CA. January.

7227 SJVAPCD (San Joaquin Valley Air Pollution Control District). 2009a. Addressing GHG Emission
7228 Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency. Fresno,
7229 California. December 17.

7230 SJVAPCD (San Joaquin Valley Air Pollution Control District). 2009b. Addressing Greenhouse Gas
7231 Emissions Impacts under the California Environmental Quality Act. Fresno, California.
7232 December 17.

7233 SJVAPCD (San Joaquin Valley Air Pollution Control District). 2009c. Guidance for Valley Land-Use
7234 Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. Fresno,
7235 California. December 17.

7236 SMAQMD (Sacramento Metropolitan Air Quality Management District). 2009. Guide to Air Quality
7237 Assessment in Sacramento County. Sacramento, California. December.

7238 Solano County. 2008. *Solano County General Plan*. Fairfield, CA. December.

7239 Yolo County. 2009. *Yolo County 2030 Countywide General Plan*. Element, if applicable. Woodland, CA.
7240 November 10.